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=> fil reg
FILE 'REGISTRY' ENTERED AT 11:09:14 ON 07 OCT 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
```



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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:     6 OCT 2004  HIGHEST RN 757927-15-4
DICTIONARY FILE UPDATES:    6 OCT 2004  HIGHEST RN 757927-15-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d sta que l30
L25                STR
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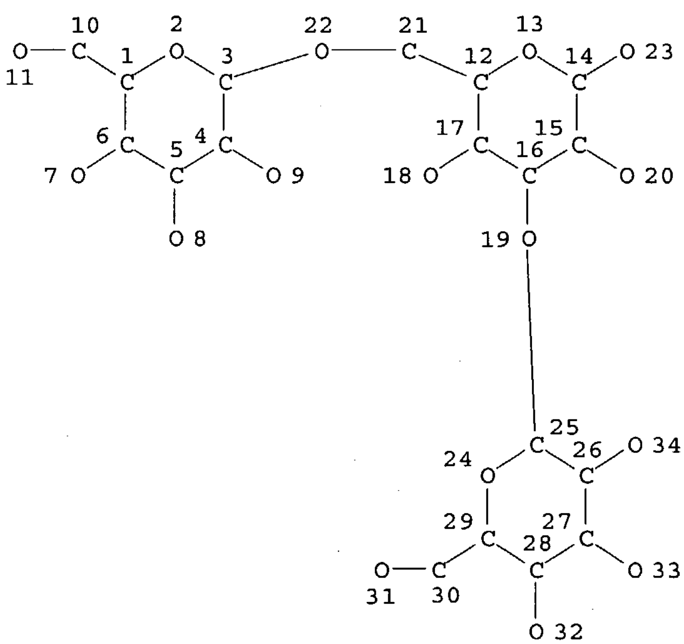

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NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  34

STEREO ATTRIBUTES: NONE
L27          5778 SEA FILE=REGISTRY SSS FUL L25
L28               STR
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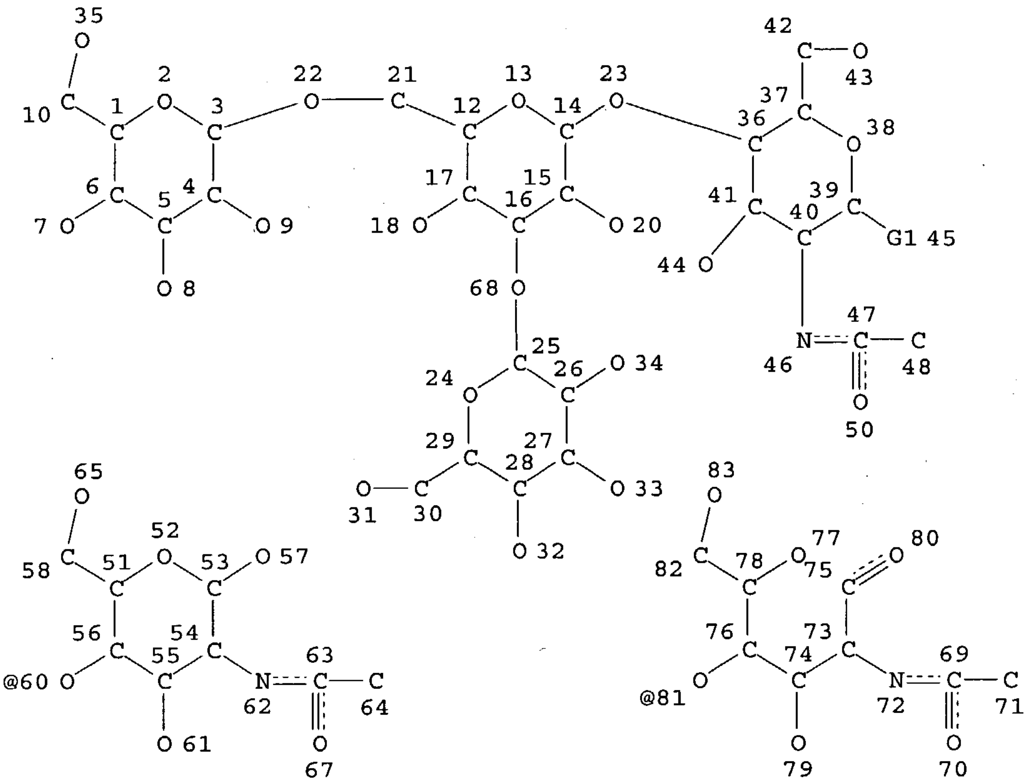

VAR G1=60/81
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 78

STEREO ATTRIBUTES: NONE
L30 1776 SEA FILE=REGISTRY SUB=L27 SSS FUL L28

100.0% PROCESSED 3910 ITERATIONS 1776 ANSWERS
SEARCH TIME: 00.00.01

=> d his

(FILE 'HOME' ENTERED AT 10:13:03 ON 07 OCT 2004)
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 10:15:11 ON 07 OCT 2004
L1 2 S (US20040121984 OR US20020049172 ORE US20020173483)/PN OR (WO9
E KUO C/AU
L2 204 S E3,E6,E7
E KUO CHO/AU
L3 71 S E4-E6,E9
E SWANSON A/AU
L4 12 S E3,E8
L5 11 S E27
E HAKOMORI S/AU

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L6            220 S E3,E4,E7,E8
L7            382 S E17-E19
                  E TAKAHASHI N/AU
L8            566 S E3-E6
                  E TAKAHASHI NOR/AU
L9            306 S E18,E10
L10            74 S L2-L9 AND CHLAMYD?/CT,CW,BI
L11            11 S L10 AND ?SACCHARIDE?
L12             2 S L10 AND CARBOHYDRATE?/SC,SX,CW,CT
L13            11 S L11,L12
L14             8 S L13 AND ?MANNO?
L15             3 S L13 NOT L14
L16             6 S L14 AND (N LINK? OR ?ACETYLGLUCOSAMINE? OR CHITOBIOSE OR ASPA
L17             4 S L16 AND HIGH
L18             2 S L14 NOT L16
L19             1 S L18 AND HIGH
L20             5 S L17,L19,L1 AND L1-L19
                  SEL RN

     FILE 'REGISTRY' ENTERED AT 10:23:29 ON 07 OCT 2004
L21            16 S E1-E16
L22             2 S L21 NOT OC5/ES
L23            13 S L21 AND NR>=2
L24             1 S L21 NOT L22,L23
L25               STR
L26            50 S L25
L27          5778 S L25 FUL
                  SAV L27 MAIER714/A
L28               STR L25
L29            50 S L28 SAM SUB=L27
L30          1776 S L28 FUL SUB=L27
                  SAV L30 MAIER714A/A
L31               STR L28
L32            20 S L31 CSS SAM SUB=L30
L33               STR L28
L34            42 S L33 CSS SAM SUB=L30
L35           719 S L33 CSS FUL SUB=L30
                  SAV L35 MAIER714B/A
L36               STR L28
L37             0 S L36 SAM SUB=L30
L38            12 S L21 AND L30
L39          1764 S L30 NOT L38

     FILE 'HCAOLD' ENTERED AT 10:53:52 ON 07 OCT 2004
L40             0 S L38

     FILE 'HCAPLUS' ENTERED AT 10:54:01 ON 07 OCT 2004
L41           504 S L38
L42          1009 S L39
L43            27 S L2-L9 AND L41
L44            42 S L2-L9 AND L42
L45             3 S L10 AND L43,L44
L46            44 S L43,L44 NOT L45
L47            33 S L46 AND (N LINK? OR ?ACETYLGLUCOSAMINE? OR ?CHITOBIOS? OR ?AS
L48            12 S L47 AND ?MANNO?
L49            20 S L46 AND ?MANNO?
L50             8 S L46 AND ASN
L51            13 S L48,L49 AND L47,L50
L52            13 S L51 AND ?MANNO?
L53             7 S L52 AND HIGH MANNO?
                  E CHLAMYDIA/CT
                  E E3+ALL
L54          4097 S E5,E4+NT
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                E E3+ALL
L55        4216 S E3+NT
                E E2+ALL
L56        4227 S E2+NT
L57           3 S L41 AND L54-L56
L58           0 S L42 AND L54-L56
L59           3 S L41,L42 AND CHLAMYD?
L60           3 S L57,L59,L45
L61         352 S L41 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)
L62         683 S L42 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)

     FILE 'REGISTRY' ENTERED AT 11:02:17 ON 07 OCT 2004
L63           1 S CHITOBIOSE/CN
L64           3 S (D-ASPARAGINE OR L-ASPARAGINE OR DL-ASPARAGINE OR ASPARAGINE)

     FILE 'HCAPLUS' ENTERED AT 11:02:59 ON 07 OCT 2004
L65          68 S L63,L64 AND L41,L42
L66         354 S (CHITOBIOSE OR ASN OR ASPARAG?) AND L41,L42
L67         270 S L61,L62 AND L65,L66
L68          62 S L67 AND  HIGH MANNO?
L69          18 S L65,L66 AND L43,L44
L70          18 S L65,L66 AND L45-L53
L71           2 S L65,L66 AND L60
L72           3 S L60,L71
L73          16 S L69-L70 NOT L72
L74           3 S L61,L62 AND L54-L56
L75           3 S L61,L62 AND CHLAMYD?
L76           3 S L72,L74,L75
L77           3 S L76 AND L1-L20,L41-62,L65-L76
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 11:08:38 ON 07 OCT 2004
L78          14 S E1-E14
L79           2 S L78 NOT L38,L39
L80          12 S L78 NOT L79

     FILE 'REGISTRY' ENTERED AT 11:09:14 ON 07 OCT 2004

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L79  ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   577-76-4  REGISTRY
CN   D-Glucose, 2-amino-4-O-(2-amino-2-deoxy-β-D-glucopyranosyl)-2-deoxy-
      (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Chitobiose (7CI)
OTHER NAMES:
CN   4-O-(2-Amino-2-deoxy-β-D-glucosyl)-D-glucosamine
FS   STEREOSEARCH
DR   23327-39-1, 140849-41-8, 68232-34-8, 196503-39-6
MF   C12 H24 N2 O9
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA,
       CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CSCHEM, MEDLINE, TOXCENTER,
       USPATFULL
         (*File contains numerically searchable property data)
DT.CA  CAplus document type:  Conference; Journal; Patent
RL.P   Roles from patents:  BIOL (Biological study); OCCU (Occurrence); PREP
       (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
RLD.P  Roles for non-specific derivatives from patents:  BIOL (Biological
       study); PREP (Preparation); PROC (Process); USES (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP
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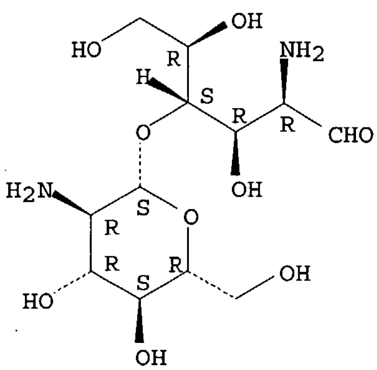
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

210 REFERENCES IN FILE CA (1907 TO DATE)
29 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
210 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 141:220857

REFERENCE 2: 141:70359

REFERENCE 3: 141:49529

REFERENCE 4: 141:48369

REFERENCE 5: 140:422448

REFERENCE 6: 140:387761

REFERENCE 7: 140:352510

REFERENCE 8: 140:316890

REFERENCE 9: 140:122384

REFERENCE 10: 140:116605

L79 ANSWER 2 OF 2 REGISTRY
RN **70-47-3** REGISTRY
CN L-Asparagine (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Asparagine, L- (8CI)
OTHER NAMES:
CN (-)-Asparagine
CN (S)-2,4-Diamino-4-oxobutanoic acid
CN (S)-Asparagine
CN α-Aminosuccinamic acid

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CN     Agedoite
CN     Altheine
CN     Asn
CN     Asparagine
CN     Asparagine acid
CN     Asparamide
CN     Aspartamic acid
CN     Aspartic acid β-amide
CN     Aspartic acid amide
CN     Butanoic acid, 2,4-diamino-4-oxo-, (S)-
CN     Crystal VI
CN     L-β-Asparagine
CN     L-2,4-Diamino-4-oxobutanoic acid
CN     l-Asparagine
CN     L-Aspartamine
CN     NSC 82391
FS     STEREOSEARCH
DR     7006-34-0, 328-41-6, 32640-57-6
MF     C4 H8 N2 O3
CI     COM
LC     STN Files:   ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
         BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
         CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*,
         DRUGU, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE,
         MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS, SPECINFO, TOXCENTER,
         USPAT2, USPATFULL, VETU
           (*File contains numerically searchable property data)
       Other Sources:   DSL**, EINECS**, TSCA**
           (**Enter CHEMLIST File for up-to-date regulatory information)
DT.CA  CAplus document type:  Book; Conference; Dissertation; Journal; Patent;
         Report
RL.P   Roles from patents:  ANST (Analytical study); BIOL (Biological study);
         CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC
         (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);
         PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role
         in record)
RLD.P  Roles for non-specific derivatives from patents:  ANST (Analytical
         study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation);
         PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES
         (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
         study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);
         MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC
         (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses);
         NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents:  ANST (Analytical
         study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU
         (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT
         (Reactant or reagent); USES (Uses)
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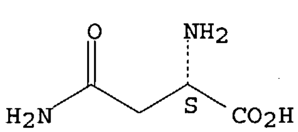
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

14465 REFERENCES IN FILE CA (1907 TO DATE)
415 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

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          14497 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE   1:  141:253204

REFERENCE   2:  141:247824

REFERENCE   3:  141:242593

REFERENCE   4:  141:242580

REFERENCE   5:  141:242571

REFERENCE   6:  141:242357

REFERENCE   7:  141:242251

REFERENCE   8:  141:239958

REFERENCE   9:  141:239112

REFERENCE  10:  141:238785

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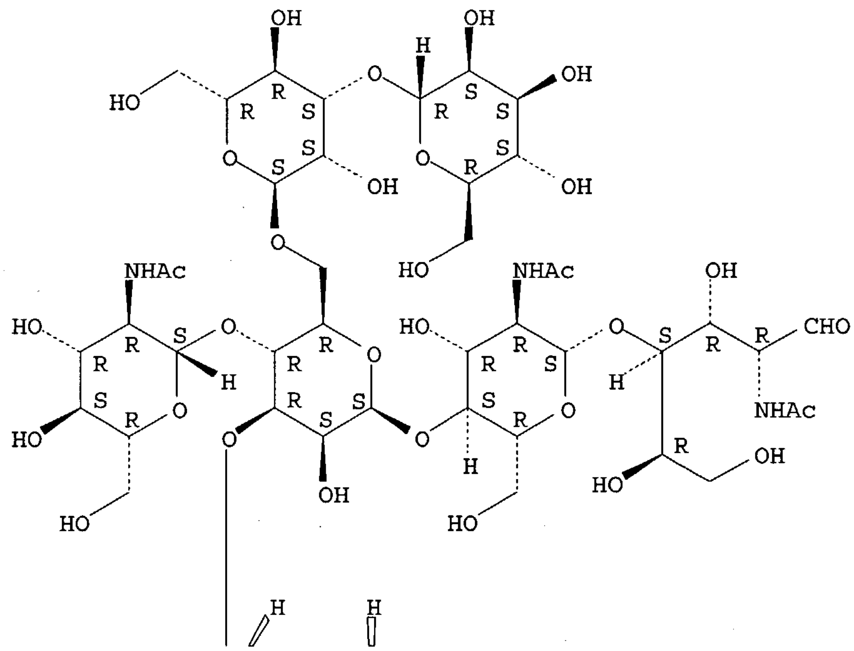
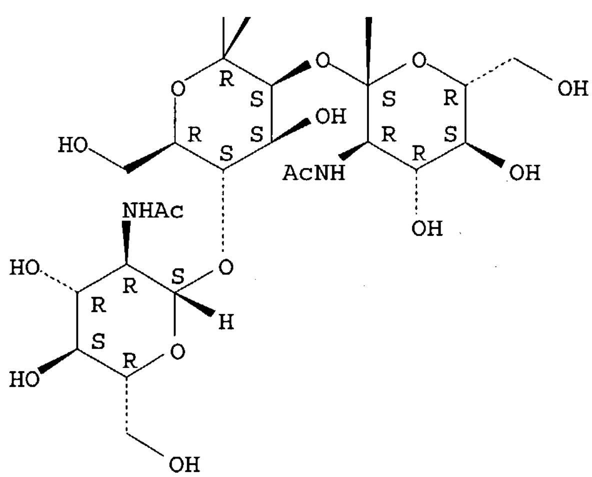
L80  ANSWER 1 OF 12  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   114154-07-3  REGISTRY
CN   D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-
     O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[2-
     (acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-
     mannopyranosyl-(1→3)]-O-[O-α-D-mannopyranosyl-(1→3)-
     α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-
     (1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-
     (1→4)-2-(acetylamino)-2-deoxy- (9CI)  (CA INDEX NAME)
FS   STEREOSEARCH
MF   C64 H107 N5 O46
SR   CA
LC   STN Files:   CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA  CAplus document type:  Journal; Patent
RL.P   Roles from patents:  BIOL (Biological study); OCCU (Occurrence); PREP
       (Preparation); USES (Uses)
RL.NP  Roles from non-patents:  ANST (Analytical study); BIOL (Biological
       study); OCCU (Occurrence); PROC (Process); PRP (Properties)

Absolute stereochemistry.
```

PAGE 1-A



PAGE 2-A



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13 REFERENCES IN FILE CA (1907 TO DATE)
13 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:335216

REFERENCE 2: 133:204479

REFERENCE 3: 132:194576

REFERENCE 4: 128:188617

REFERENCE 5: 127:356647

REFERENCE 6: 119:176958

REFERENCE 7: 118:76442

REFERENCE 8: 114:223974

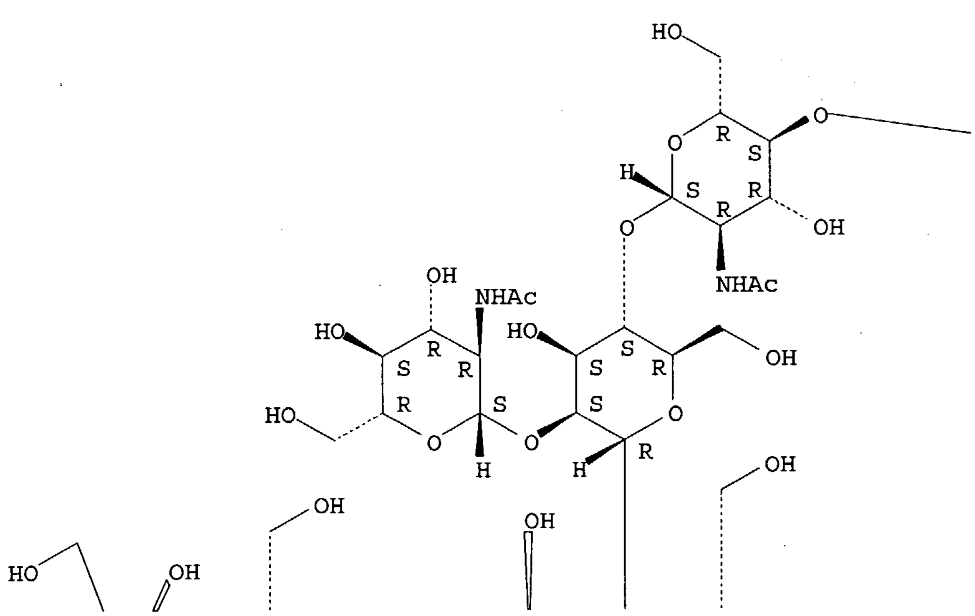
REFERENCE 9: 114:139267

REFERENCE 10: 114:120086

L80 ANSWER 2 OF 12 REGISTRY
RN **114154-06-2** REGISTRY
CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-[O-α-D-mannopyranosyl-(1→3)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 168330-64-1
MF C70 H117 N5 O51
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PROC (Process); PRP (Properties)

Absolute stereochemistry.

PAGE 1-A



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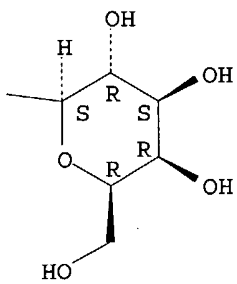

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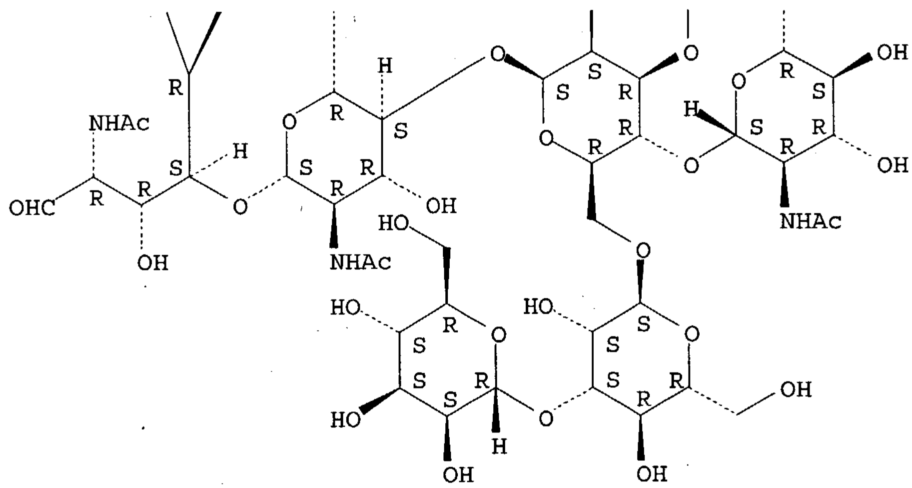

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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REFERENCE 2: 133:204479

REFERENCE 3: 133:1846

REFERENCE 4: 132:194576

REFERENCE 5: 128:188617

REFERENCE 6: 123:280123

REFERENCE 7: 119:176958

REFERENCE 8: 118:76442

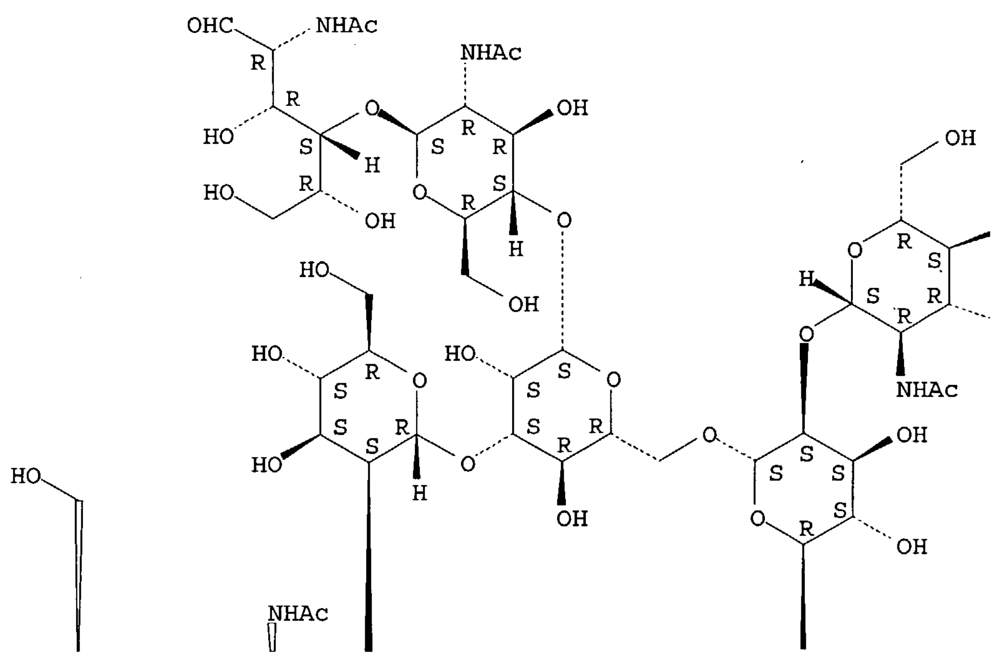
REFERENCE 9: 114:139267

REFERENCE 10: 110:208671

L80 ANSWER 3 OF 12 REGISTRY
RN **93445-86-4** REGISTRY
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 121930-54-9, 420839-30-1
MF C76 H127 N5 O56
CI COM
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Conference; Journal; Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process); PRP (Properties)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); OCCU (Occurrence); PRP (Properties)

Absolute stereochemistry.

PAGE 1-A



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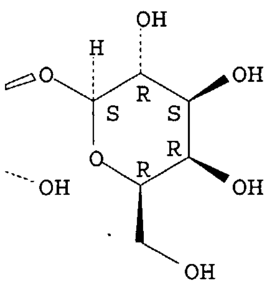
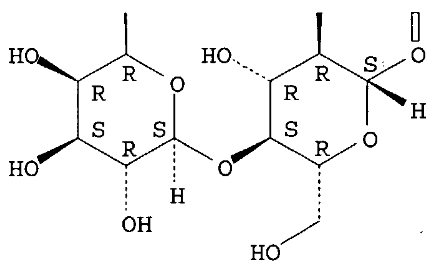
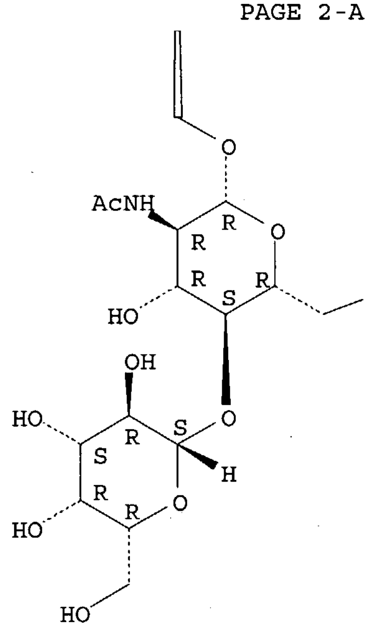




PAGE 2-A



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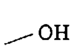


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

43 REFERENCES IN FILE CA (1907 TO DATE)
6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
43 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 136:352937

REFERENCE 2: 136:335216

REFERENCE 3: 133:317669

REFERENCE 4: 133:292560

REFERENCE 5: 133:29458

REFERENCE 6: 132:319201

REFERENCE 7: 128:188617

REFERENCE 8: 126:275674

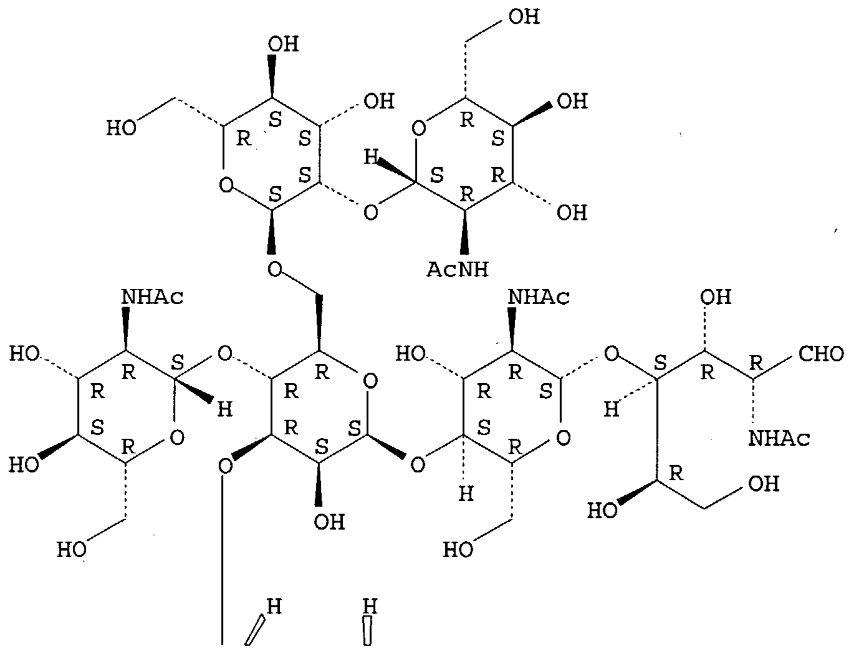
REFERENCE 9: 126:102397

REFERENCE 10: 124:336610

L80 ANSWER 4 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **85394-22-5** REGISTRY
CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 84825-28-5
MF C66 H110 N6 O46
CI COM
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

Absolute stereochemistry.

PAGE 1-A



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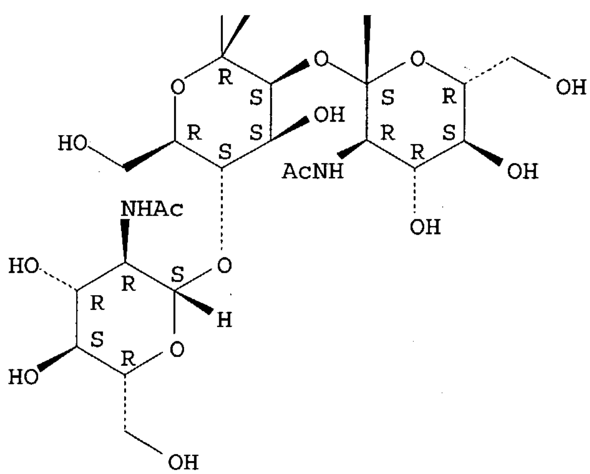

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19 REFERENCES IN FILE CA (1907 TO DATE)
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REFERENCE 3: 136:335216

REFERENCE 4: 134:1795

REFERENCE 5: 133:204479

REFERENCE 6: 128:188617

REFERENCE 7: 127:356647

REFERENCE 8: 127:79955

REFERENCE 9: 121:57821

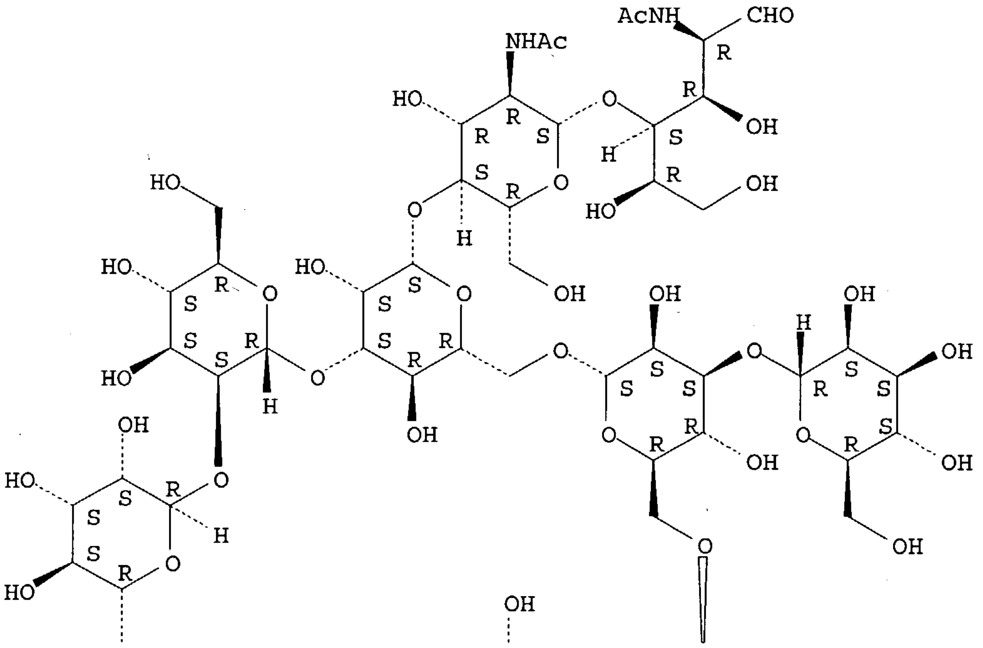
REFERENCE 10: 119:264981

7 mannose

L80 ANSWER 5 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **84182-22-9** REGISTRY
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 161218-84-4, 110402-18-1, 200398-06-7
MF C58 H98 N2 O46
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.

PAGE 1-A



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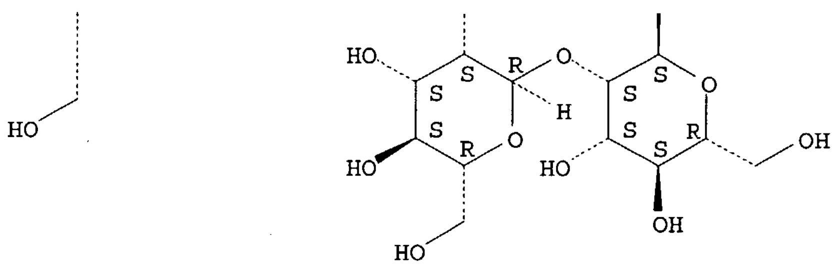

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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66 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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REFERENCE 2: 139:226051

REFERENCE 3: 138:23131

REFERENCE 4: 137:276010

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REFERENCE 6: 136:164117

REFERENCE 7: 135:224291

REFERENCE 8: 135:207321

REFERENCE 9: 135:192100

REFERENCE 10: 134:162059

5 mannose

L80 ANSWER 6 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **84182-21-8** REGISTRY
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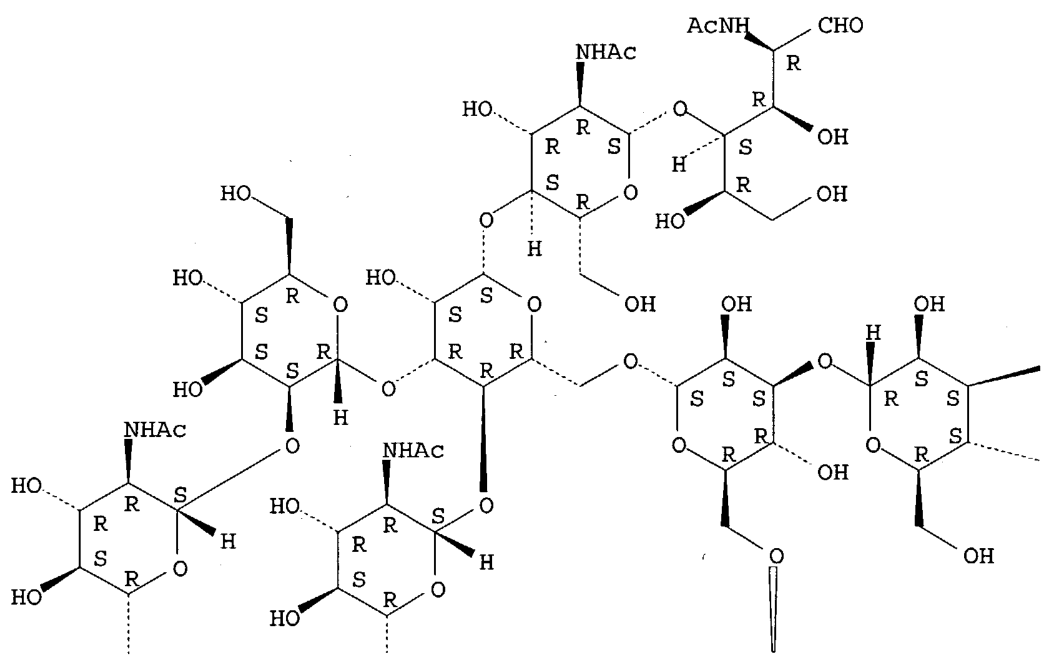
FS STEREOSEARCH
DR 503569-58-2, 316823-14-0
MF C62 H104 N4 O46
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties)
RLD.NP Roles for non-specific derivatives from non-patents: PREP (Preparation)

Absolute stereochemistry.

PAGE 1-A



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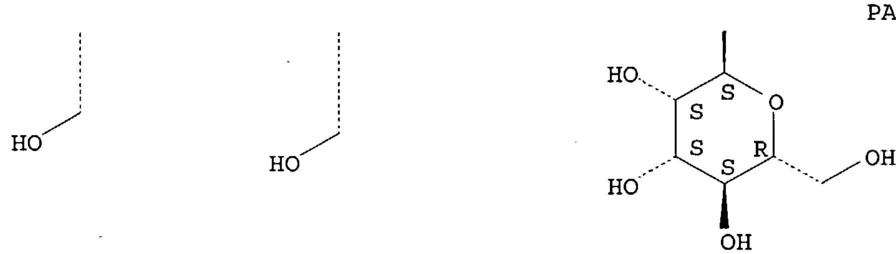

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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REFERENCE 1: 138:267456

REFERENCE 2: 136:335216

REFERENCE 3: 134:86469

REFERENCE 4: 133:204479

REFERENCE 5: 133:204465

REFERENCE 6: 133:190049

REFERENCE 7: 132:194576

REFERENCE 8: 128:305366

REFERENCE 9: 128:188617

REFERENCE 10: 127:356647

L80 ANSWER 7 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **83178-05-6** REGISTRY

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 161218-82-2, 133331-71-2, 108731-93-7, 183242-85-5, 200398-07-8, 422308-13-2
MF C58 H98 N2 O46
CI COM
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
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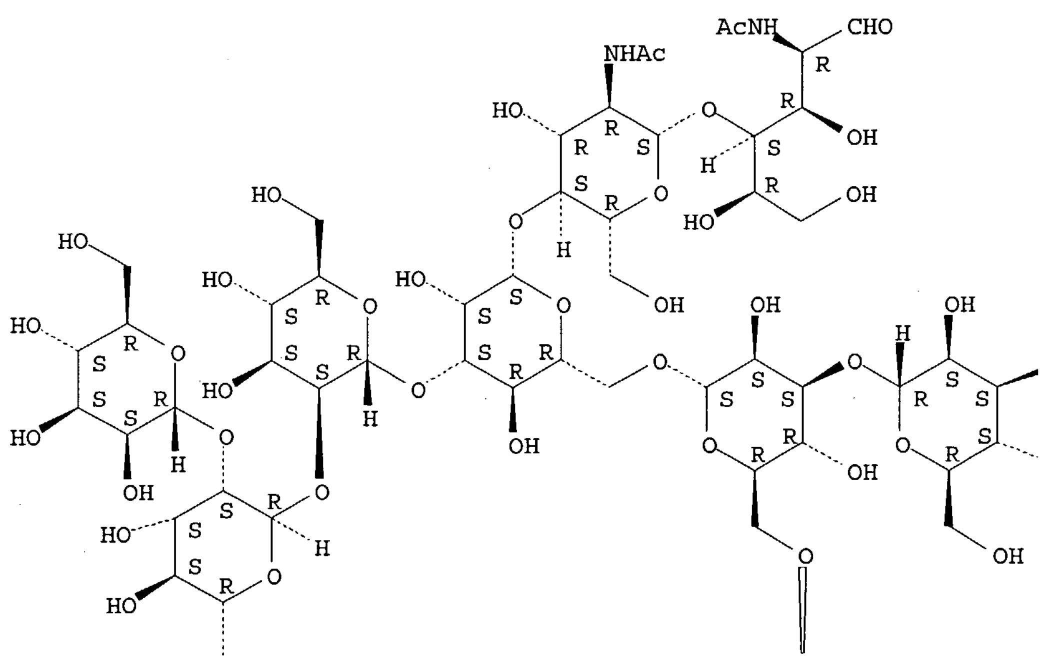
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

Absolute stereochemistry.

PAGE 1-A



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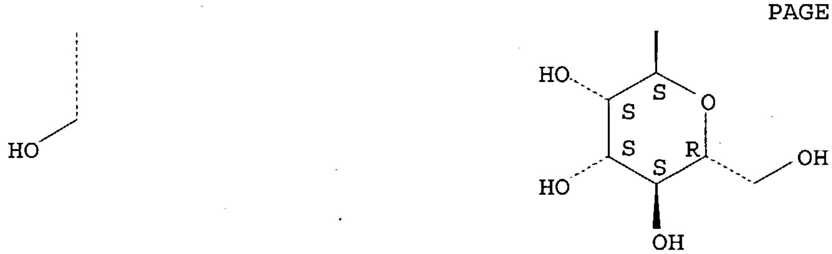

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REFERENCE 4: 137:137536

REFERENCE 5: 136:335216

REFERENCE 6: 135:207321

REFERENCE 7: 133:317669

REFERENCE 8: 133:307885

REFERENCE 9: 133:42070

REFERENCE 10: 132:319202

6 mannose

L80 ANSWER 8 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **77355-54-5** REGISTRY
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-

mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-
[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-
(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-
deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI)
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-
mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-
α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-
(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-
deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-

FS STEREOSEARCH

DR 161218-81-1, 125699-05-0, 133309-40-7, 183242-83-3, 200398-09-0,
240126-93-6, 240129-84-4, 420839-17-4

MF C52 H88 N2 O41

CI COM

LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

DT.CA CAplus document type: Journal; Patent

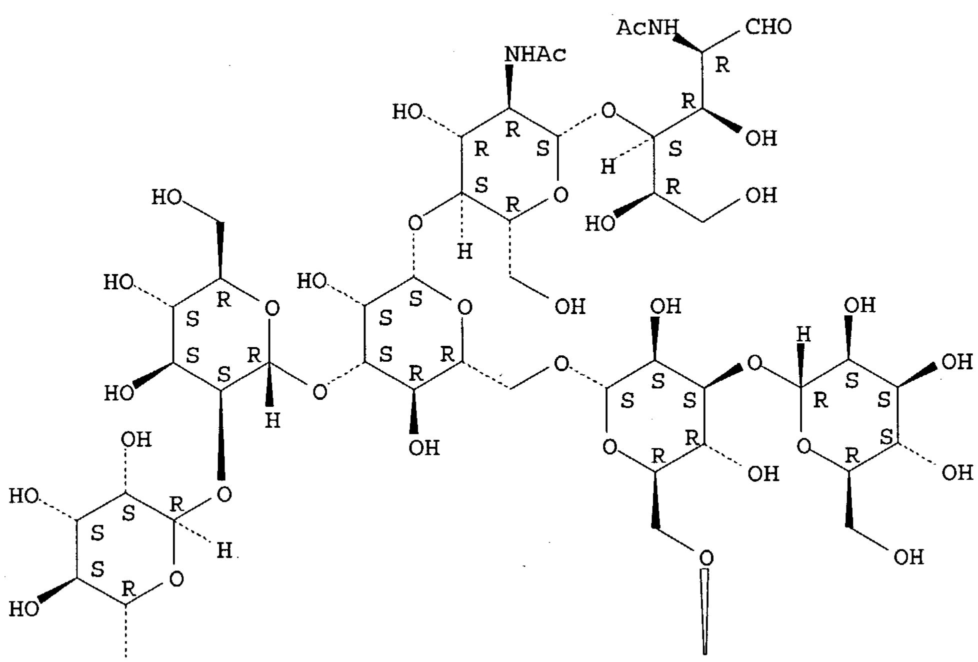
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP
(Preparation); PRP (Properties); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or
reagent)

RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological
study); FORM (Formation, nonpreparative); PREP (Preparation)

Absolute stereochemistry.

PAGE 1-A



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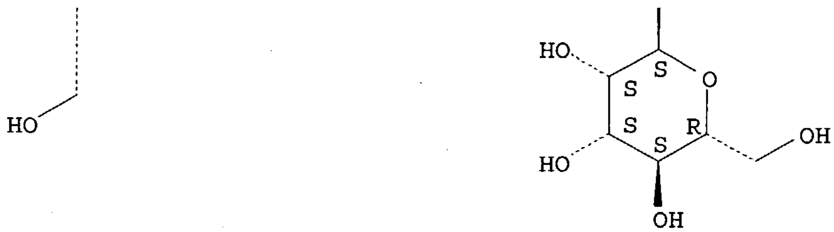

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REFERENCE 1: 141:52833

REFERENCE 2: 141:20543

REFERENCE 3: 140:317606

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REFERENCE 5: 139:226051

REFERENCE 6: 138:284074

REFERENCE 7: 138:184629

REFERENCE 8: 138:68631

REFERENCE 9: 137:276010

REFERENCE 10: 137:261579

8 mannose

L80 ANSWER 9 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **77036-51-2** REGISTRY
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 478635-26-6, 161218-85-5, 116883-23-9, 198492-50-1, 200398-05-6
MF C64 H108 N2 O51
LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Conference; Journal; Patent
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)
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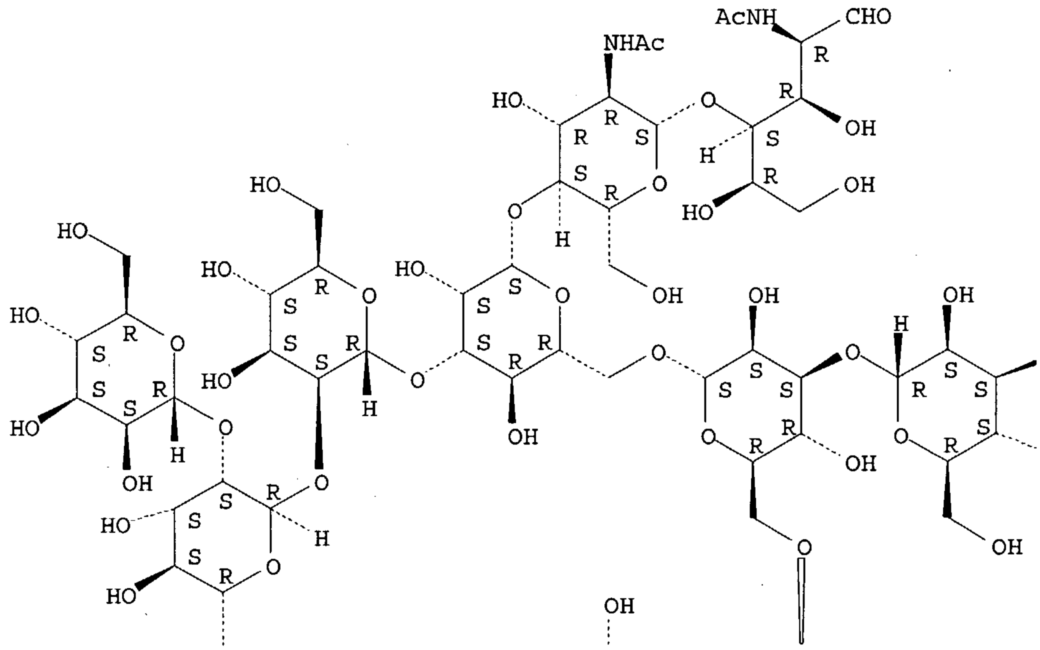
study); FORM (Formation, nonpreparative)

Absolute stereochemistry.

PAGE 1-A



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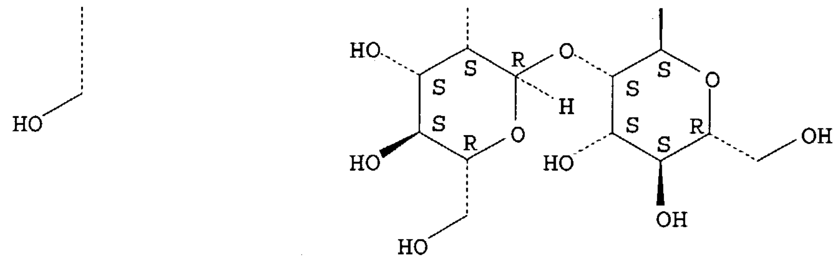

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REFERENCE 2: 140:40774

REFERENCE 3: 139:226051

REFERENCE 4: 138:51916

REFERENCE 5: 137:276010

REFERENCE 6: 137:137536

REFERENCE 7: 136:335216

REFERENCE 8: 135:224291

REFERENCE 9: 135:207321

REFERENCE 10: 134:204126

L80 ANSWER 10 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **71496-53-2** REGISTRY
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 478695-78-2, 163351-16-4, 161478-66-6, 121940-81-6, 113788-95-7, 152886-24-3, 155036-36-5, 175612-64-3, 221079-20-5, 227298-98-8, 229326-64-1, 422308-11-0, 540534-32-5
MF C62 H104 N4 O46
CI COM
LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL
DT.CA CAplus document type: Conference; Journal; Patent
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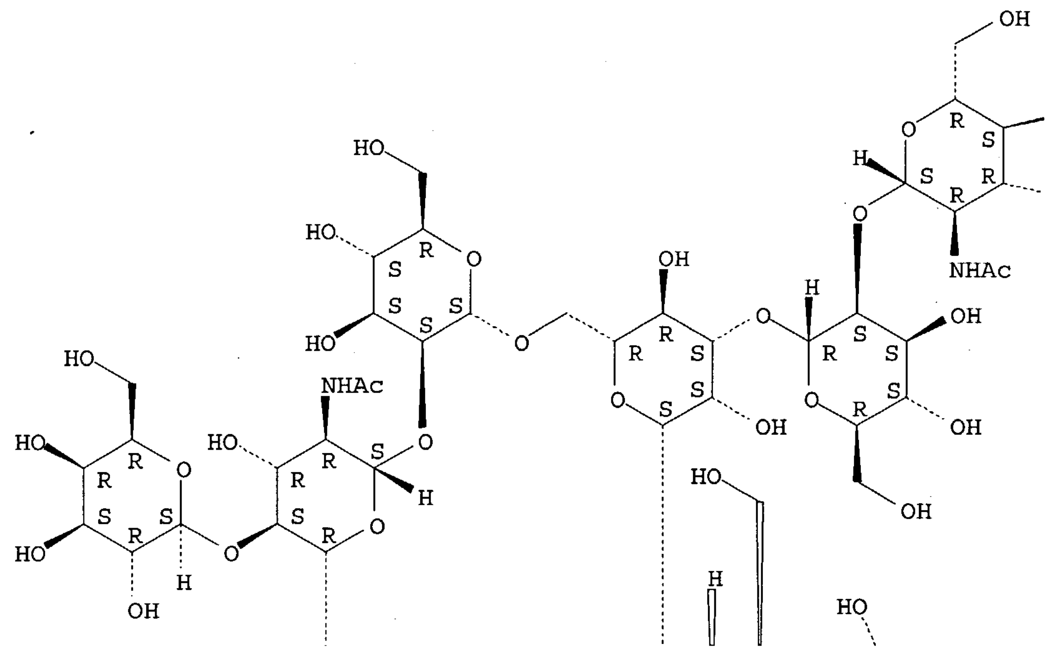
RLD.P Roles for non-specific derivatives from patents: PREP (Preparation)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP

(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PRP (Properties); RACT (Reactant or reagent)

Absolute stereochemistry.

PAGE 1-A



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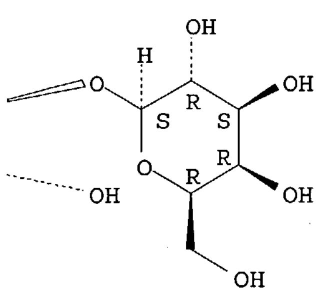

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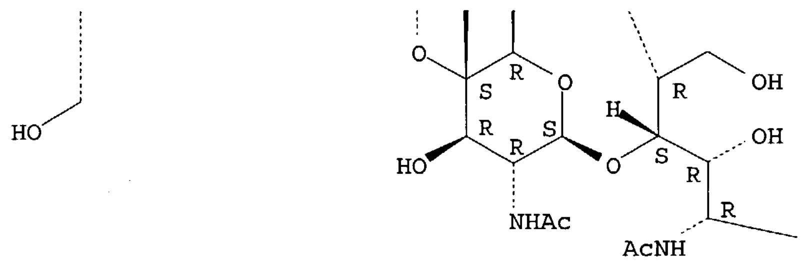

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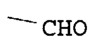

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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REFERENCE 1: 141:152987

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REFERENCE 3: 140:317592

REFERENCE 4: 140:199731

REFERENCE 5: 139:319688

REFERENCE 6: 139:144583

REFERENCE 7: 139:131045

REFERENCE 8: 139:34952

REFERENCE 9: 138:61285

REFERENCE 10: 137:139008

9 mannose

L80 ANSWER 11 OF 12 REGISTRY COPYRIGHT 2004 ACS on STN
RN **71246-55-4** REGISTRY
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(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-
mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-
β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-
glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX

NAME)
FS STEREOSEARCH
DR 161218-88-8, 161564-50-7, 130583-21-0, 132853-97-5, 105071-71-4, 139501-29-4, 178249-77-9, 183242-87-7
MF C70 H118 N2 O56
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Conference; Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PROC (Process); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)
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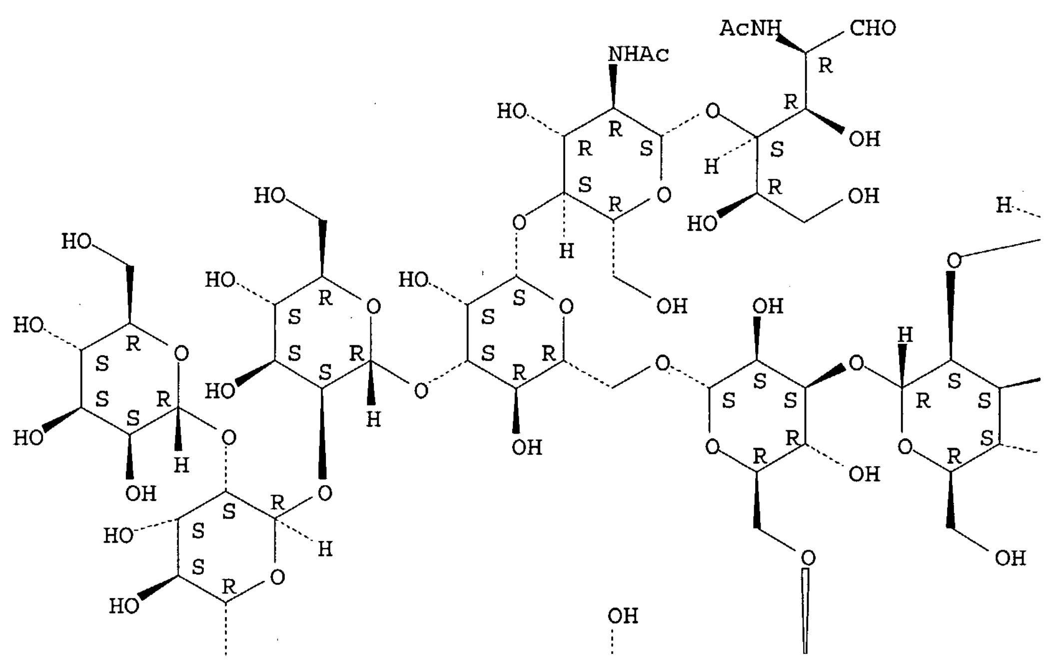
Absolute stereochemistry.

PAGE 1-A



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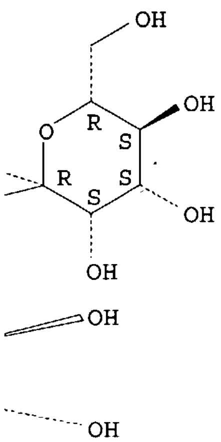

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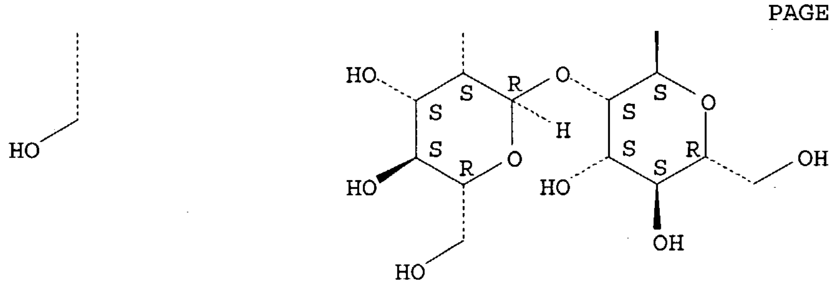

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REFERENCE 1: 141:174462

REFERENCE 2: 140:402146

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REFERENCE 5: 140:92263

REFERENCE 6: 140:40774

REFERENCE 7: 138:331180

REFERENCE 8: 138:284074

REFERENCE 9: 138:85301

REFERENCE 10: 138:68631

L80 ANSWER 12 OF 12 REGISTRY

RN **66091-47-2** REGISTRY 5 mannose

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

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FS STEREOSEARCH

DR 503569-57-1, 161218-80-0, 126976-44-1, 133331-70-1, 139535-96-9, 152880-39-2, 183242-79-7, 341506-40-9, 364589-92-4, 420839-16-3

MF C46 H78 N2 O36

CI COM

LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER, USPAT2, USPATFULL

DT.CA CAplus document type: Journal; Patent

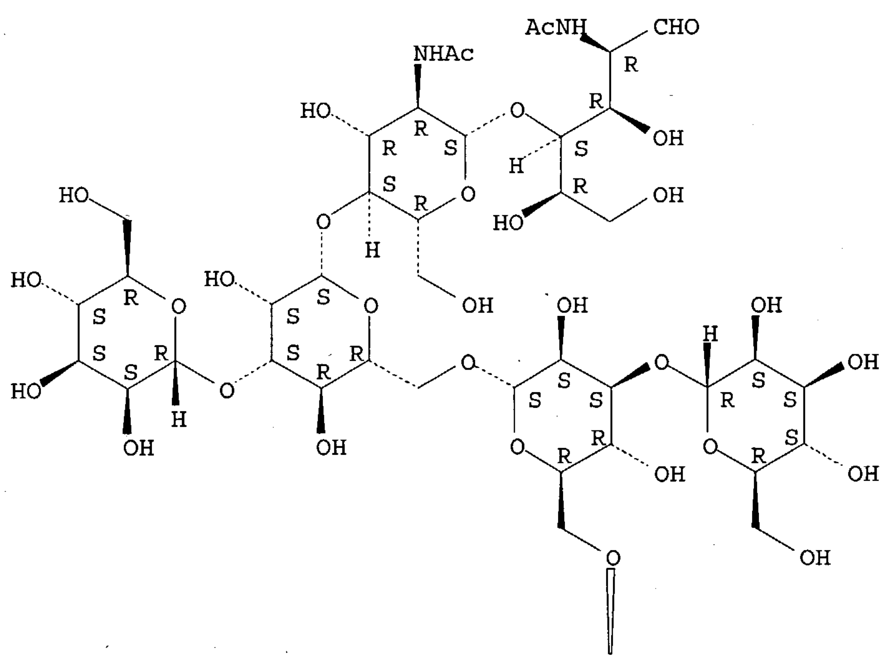
RL.P Roles from patents: BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties)

Absolute stereochemistry.

PAGE 1-A



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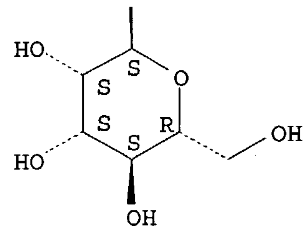

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REFERENCE 2: 141:52833

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REFERENCE 8: 140:26737

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FILE COVERS 1907 - 7 Oct 2004 VOL 141 ISS 15
FILE LAST UPDATED: 6 Oct 2004 (20041006/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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PA   USA
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DT   Patent
LA   English
IC   ICM  A61K031-715
NCL  514042000
CC   1-5 (Pharmacology)
     Section cross-reference(s): 10
FAN.CNT 2
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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PI   US 2002049172        A1    20020425   US 2001-950684         20010913 <--
     US 2002173483        A1    20021121   US 1999-230346         19990219 <--
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PRAI US 1999-230346       A1    19990219 <--
     US 1996-672849       B2    19960725 <--
     WO 1997-US13037      W     19970725 <--
     US 2001-950684       B1    20010913 <--
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 US 2002049172   ICM    A61K031-715
                 NCL    514042000
 US 2004121984   ECLA   A61K031/70J; A61K031/715; A61K031/715; C07H003/06   <--
AB   The carbohydrate moieties of the major outer membrane protein (MOMP) which
     are involved in the attachment of C. trachomatis and other
     chlamydiae to host mammalian cells can be used to block attachment
     and infectivity of chlamydiae.  Thus, among the objects of the
     instant invention are the identification of the relevant
     oligosaccharides which mediate the binding of various
     chlamydiae to mammalian cells, which mediate the infectivity of
     various chlamydiae in mammalian cells, compns. comprising same
     and methods for using same to block binding of and infectivity of
     chlamydiae in a host.  Those and other objects of the instant
     invention have been attained by the discovery of novel N-
     linked structures in chlamydia MOMP, of a "high
     mannose-type" which mediate binding of chlamydiae to
     mammalian host cells.  Thus, the instant invention includes compns. and
     methods for precluding attachment of chlamydiae to host cells.
ST   Chlamydia oligosaccharide attachment infectivity
     blockade
IT   Infection
        (bacterial, inhibition; identification of Chlamydia
        oligosaccharides that block attachment and infectivity in host
        mammalian cells)
IT   Mannooligosaccharides
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (branched; identification of Chlamydia
        oligosaccharides that block attachment and infectivity in host
        mammalian cells)
```

IT Antibacterial agents
Chlamydia
Chlamydia pneumoniae
Chlamydia psittaci
Chlamydia trachomatis
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

IT **Oligosaccharides**, biological studies
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

IT Ovalbumin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**oligosaccharides** of; identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

IT **66091-47-2P 71246-55-4P 71496-53-2P**
77036-51-2P 77355-54-5P 83178-05-6P
93445-86-4P
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

IT **577-76-4D, Chitobiose**, conjugates with **trimannosyl** core
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

IT **84182-21-8P 84182-22-9P 85394-22-5P**
114154-06-2P 114154-07-3P
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(of hen egg ovalbumin; identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

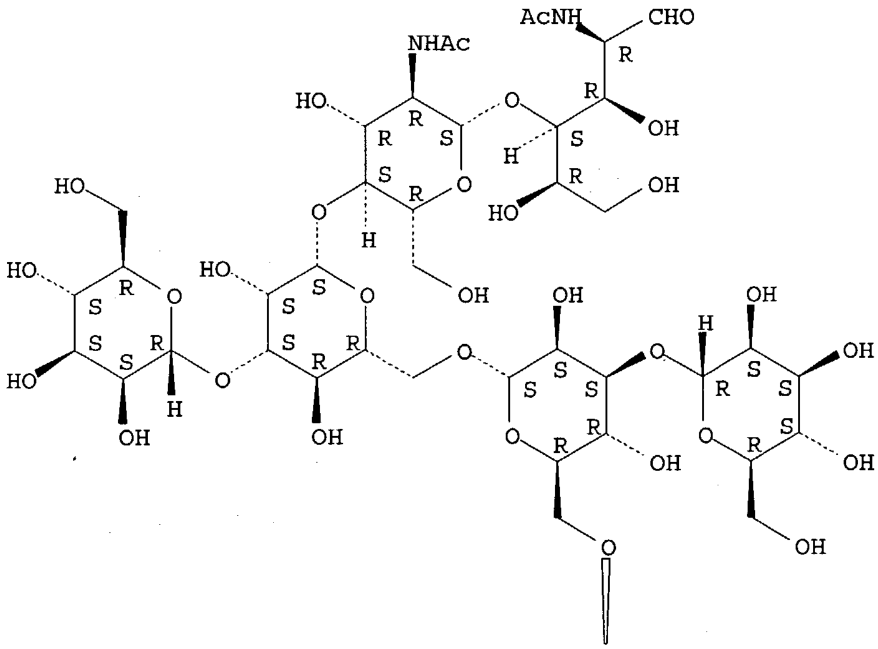
IT **66091-47-2P 71246-55-4P 71496-53-2P**
77036-51-2P 77355-54-5P 83178-05-6P
93445-86-4P
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

RN 66091-47-2 HCAPLUS

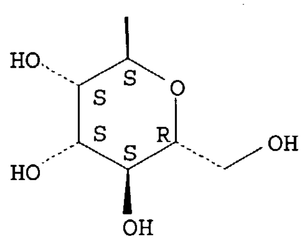
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

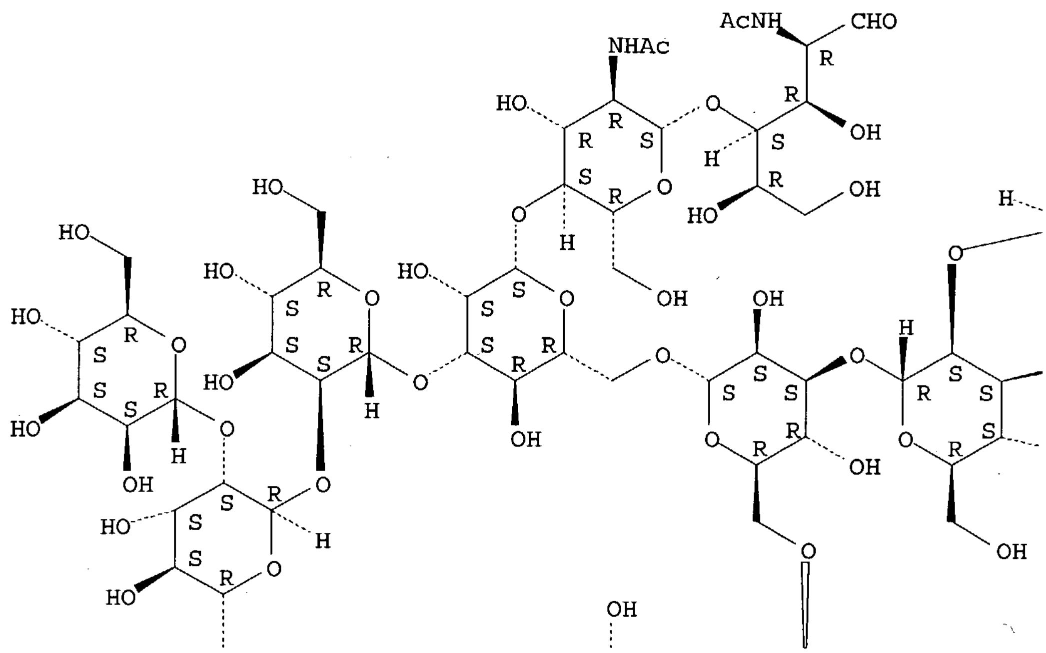


RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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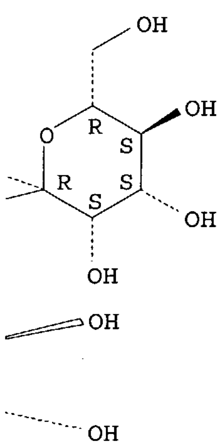

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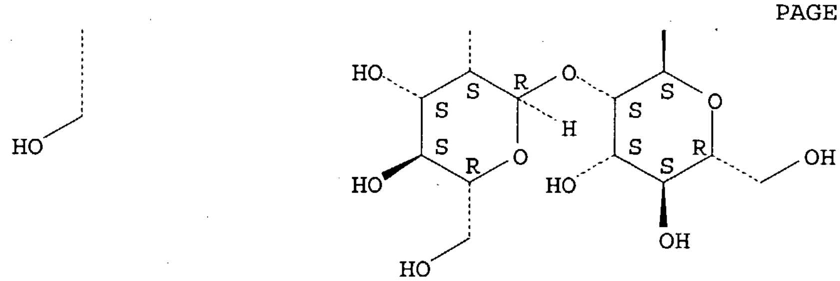
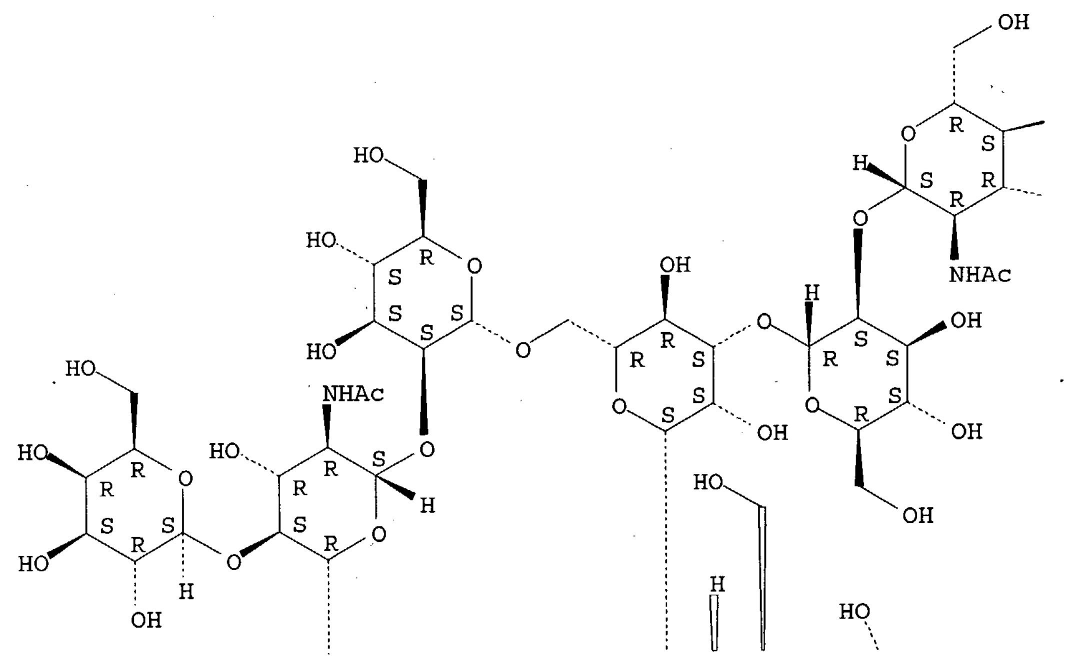


RN 71496-53-2 HCAPLUS
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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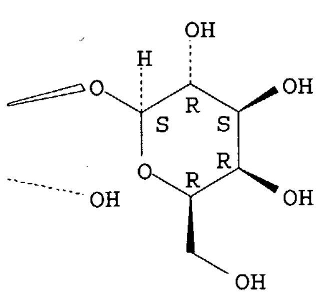

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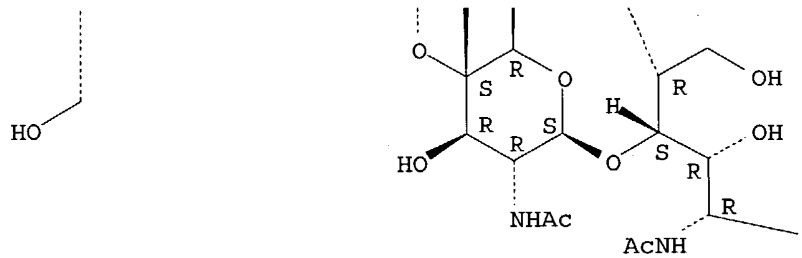

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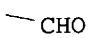
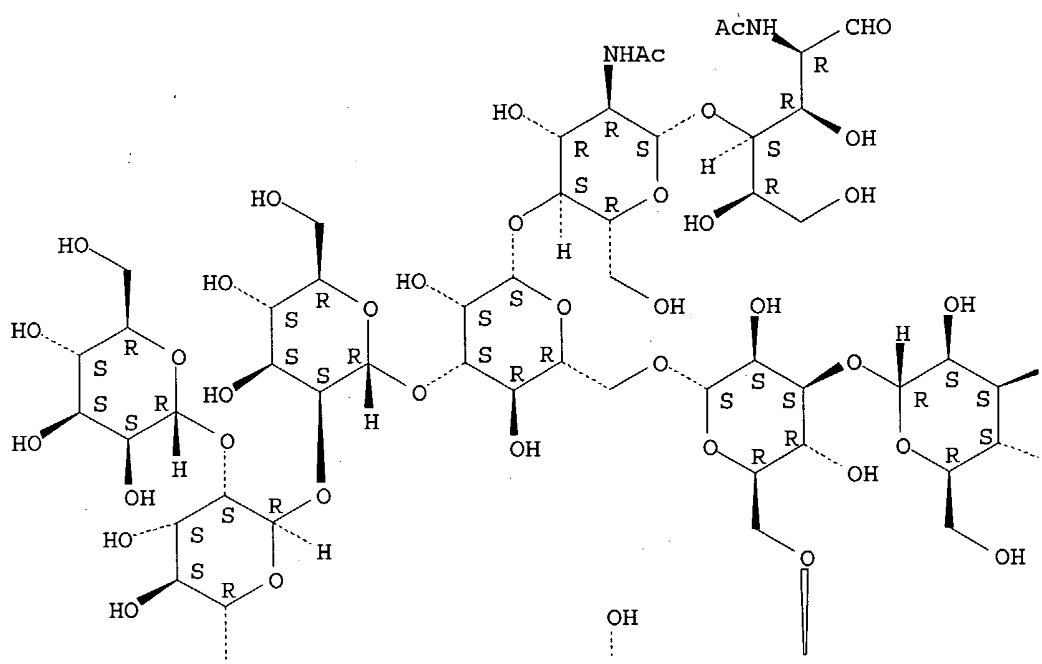


RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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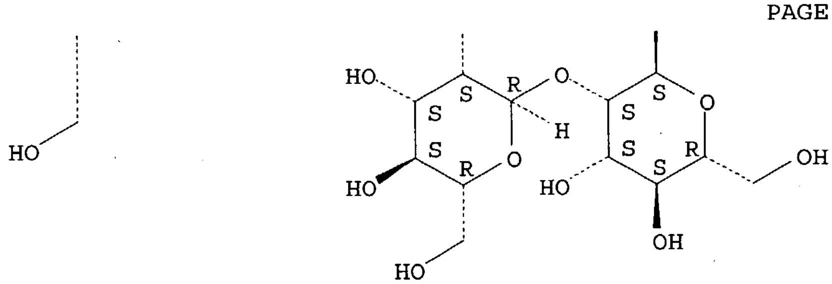
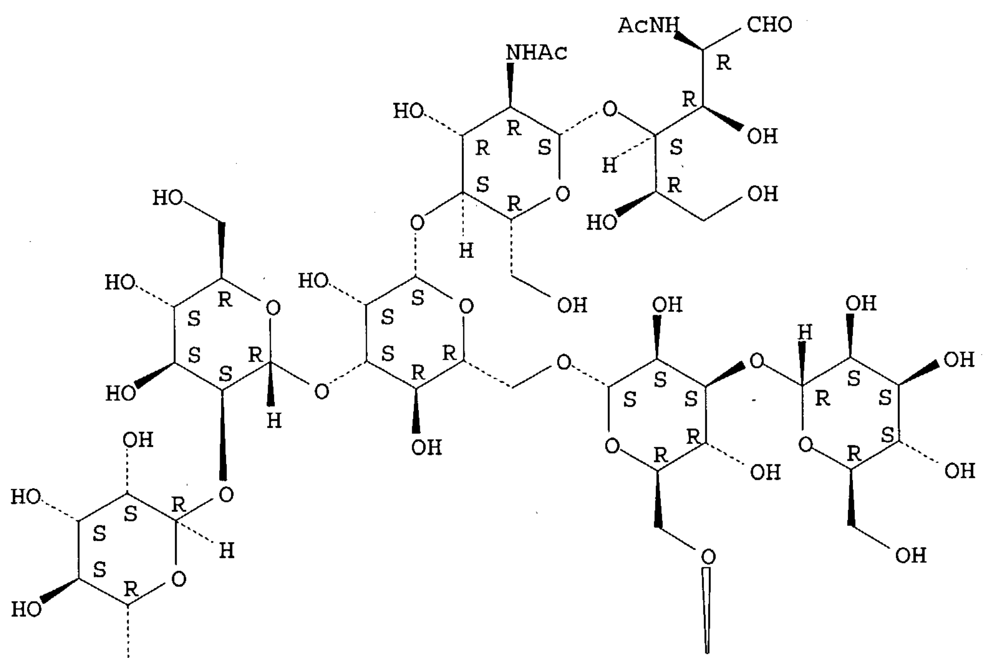
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

RN 83178-05-6 HCAPLUS
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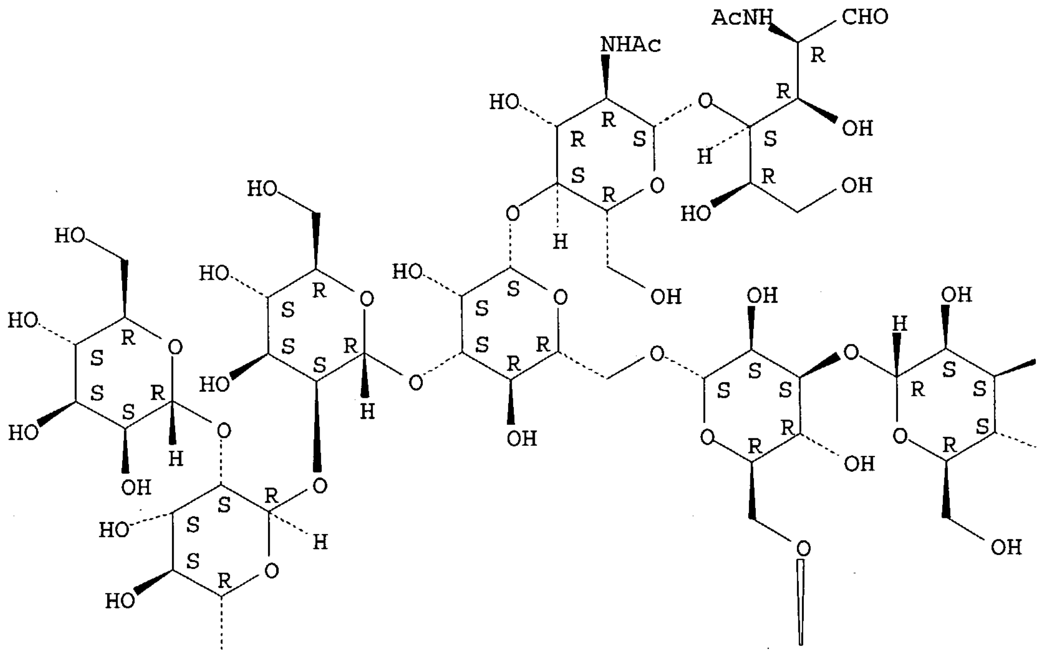
Absolute stereochemistry.

PAGE 1-A



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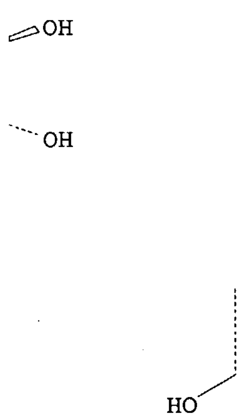

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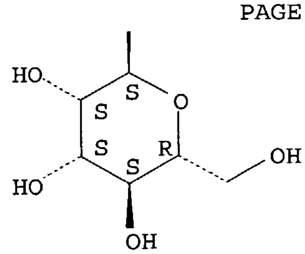
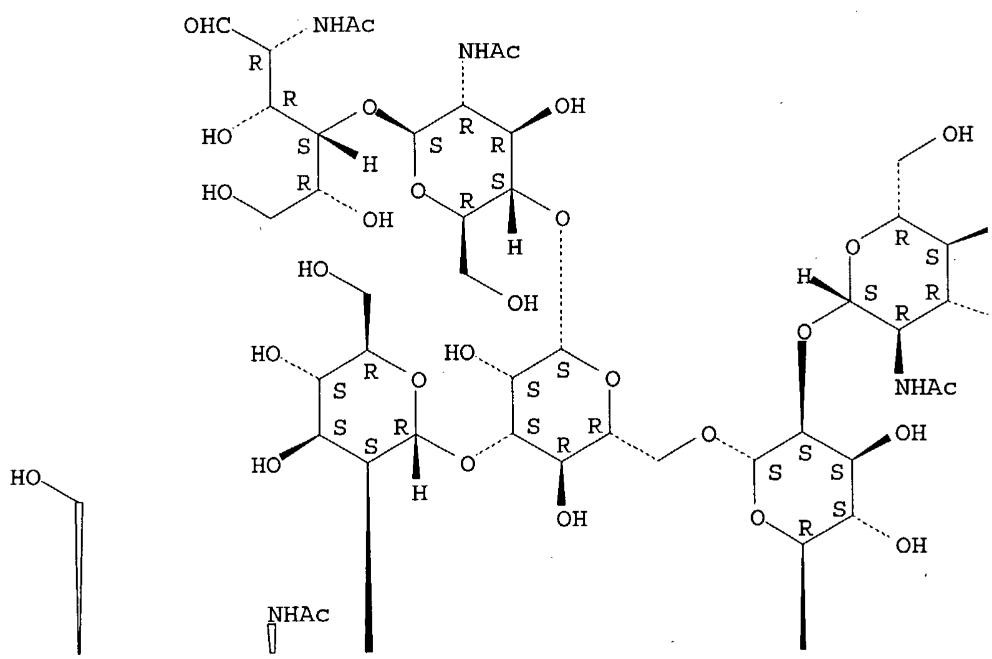


RN 93445-86-4 HCAPLUS

CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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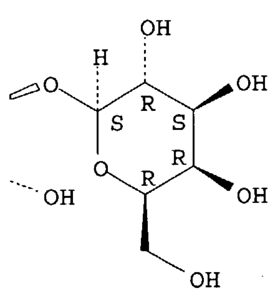

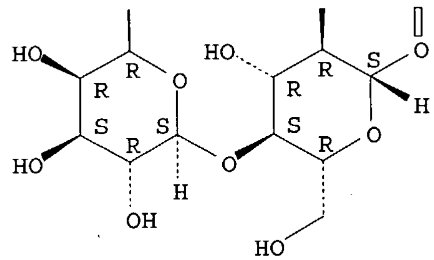

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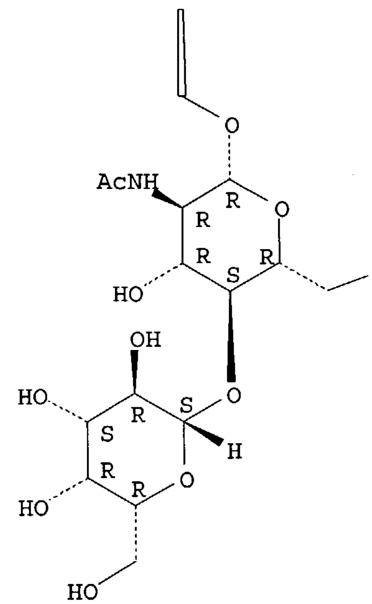

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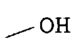
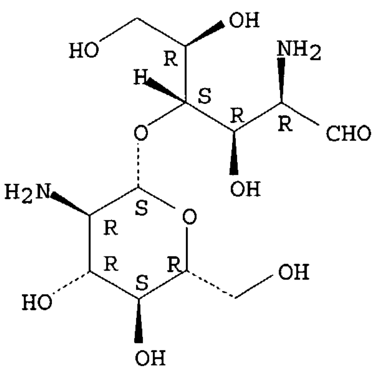


IT 577-76-4D, **Chitobiose**, conjugates with **trimannosyl** core
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

RN 577-76-4 HCAPLUS

CN D-Glucose, 2-amino-4-O-(2-amino-2-deoxy-β-D-glucopyranosyl)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



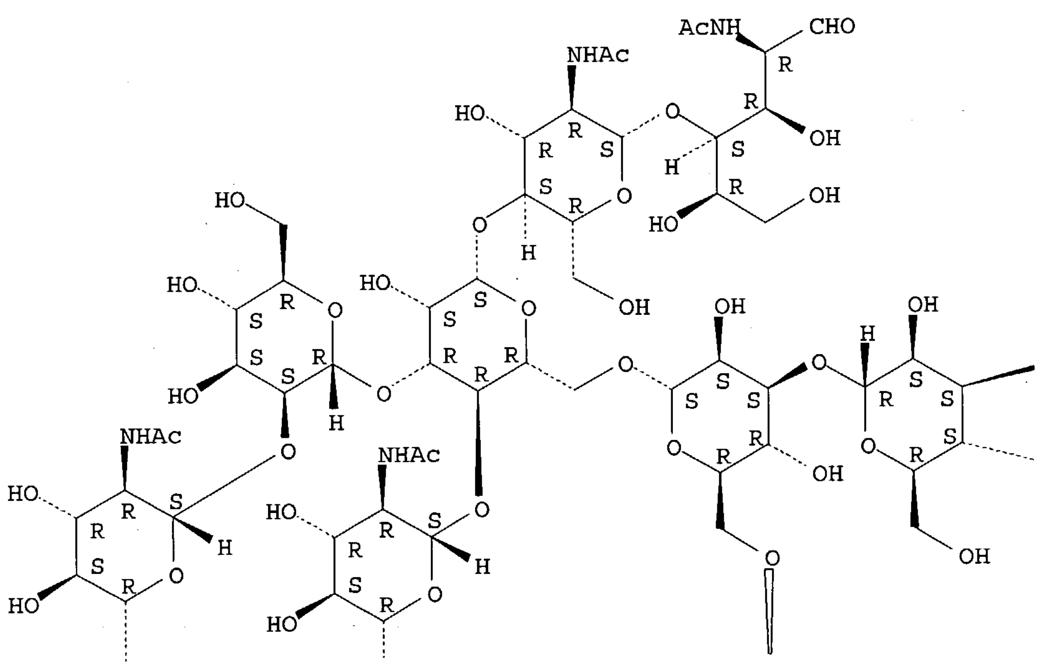
IT 84182-21-8P 84182-22-9P 85394-22-5P
114154-06-2P 114154-07-3P
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(of hen egg ovalbumin; identification of **Chlamydia oligosaccharides** that block attachment and infectivity in host mammalian cells)

RN 84182-21-8 HCAPLUS

CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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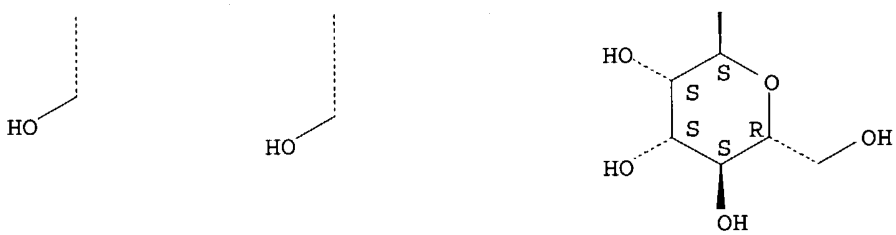

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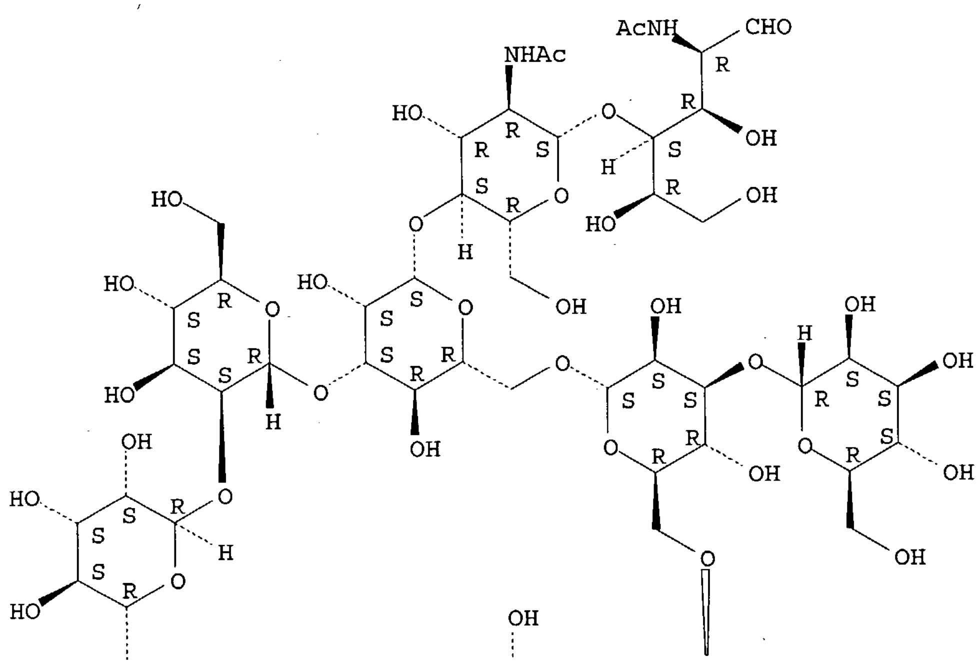
Absolute stereochemistry.

PAGE 1-A



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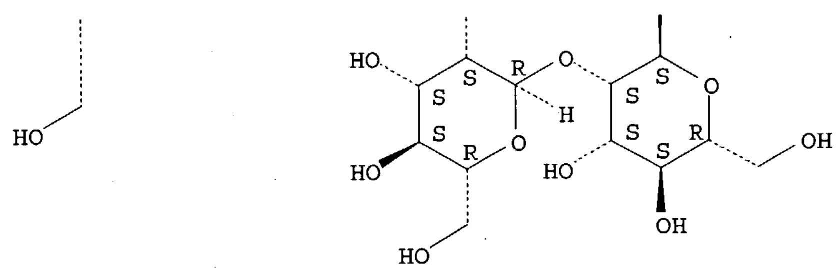

RN 85394-22-5 HCAPLUS

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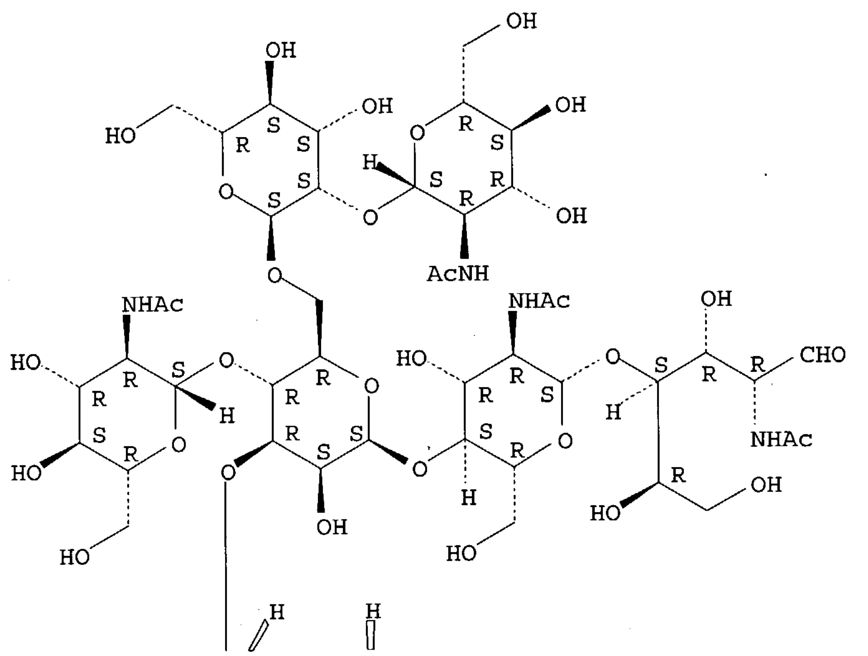
Absolute stereochemistry.

PAGE 1-A



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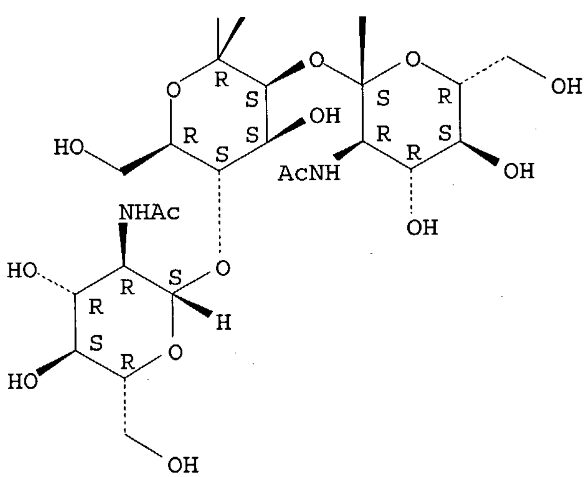

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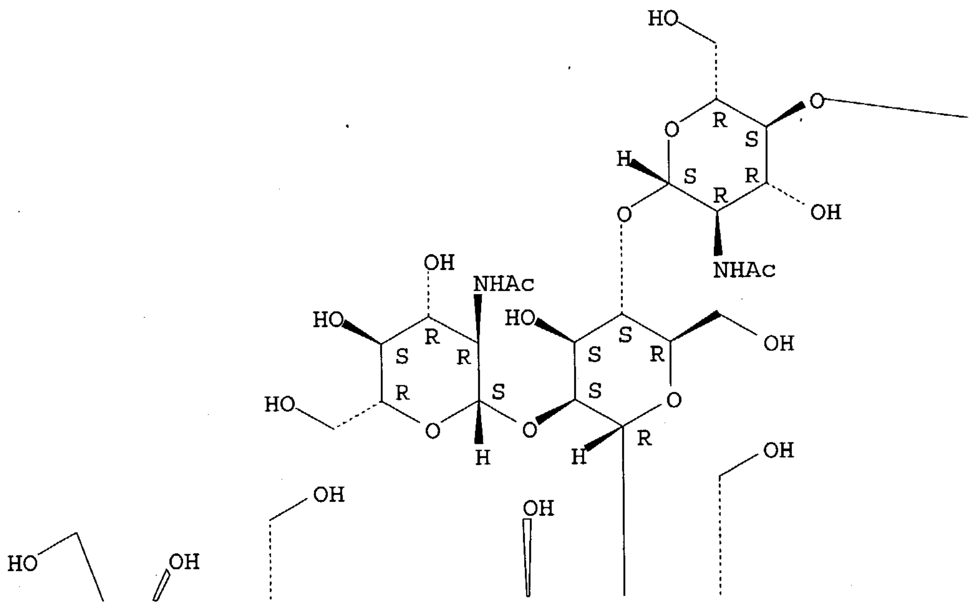
Absolute stereochemistry.

PAGE 1-A



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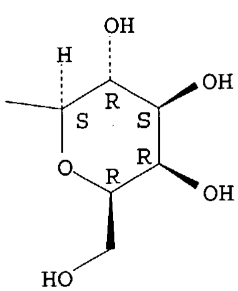

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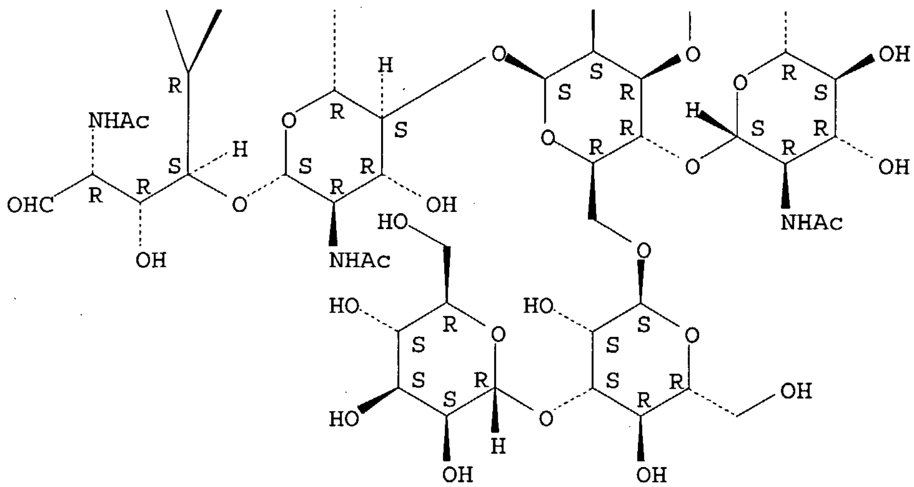

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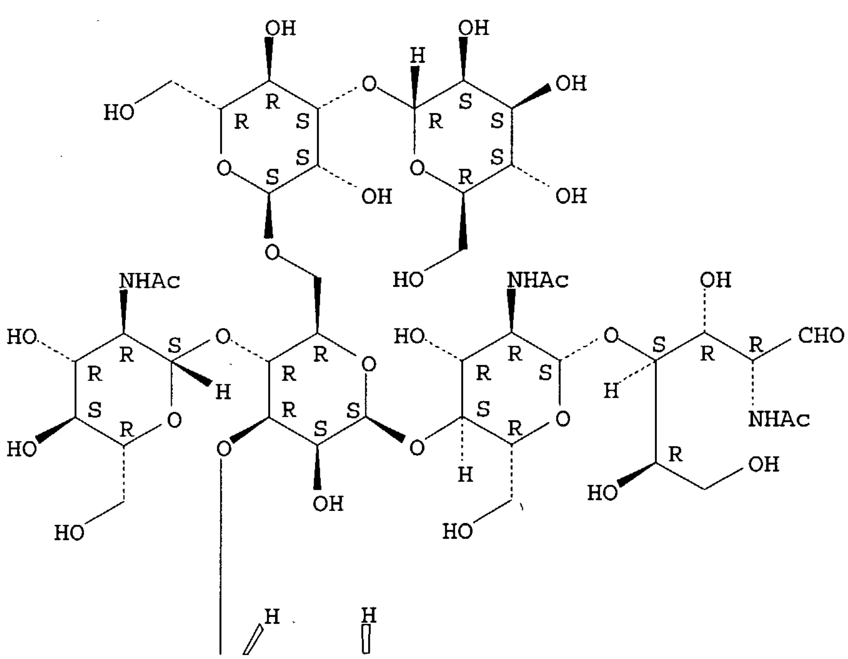
Absolute stereochemistry.

PAGE 1-A



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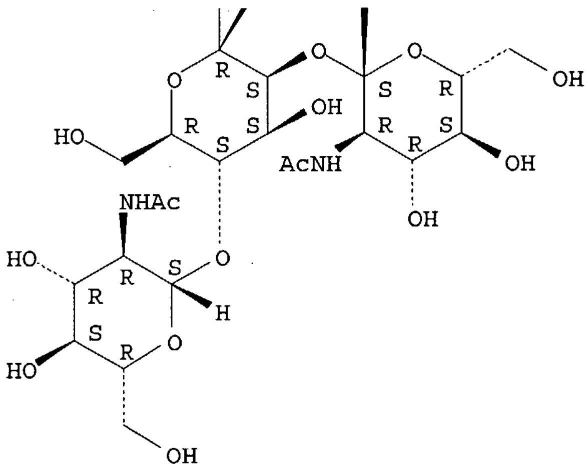

L77 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:98333 HCAPLUS
DN 128:188617
ED Entered STN: 19 Feb 1998
TI **Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity
IN **Takahashi, Noriko; Kuo, Cho-Chou; Swanson, Albertina F.; Hakomori, Sen-Itiroh**
PA Biomembrane Institute, USA; University of Washington
SO PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K031-715
ICS C07H001-00
CC 1-5 (Pharmacology)
Section cross-reference(s): 10, 63
FAN.CNT 2

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	US 2004138173	A1	20040715	US 2003-732281	20031211	<--
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	US 2001-950684	B1	20010913	<--		
	US 2002-287587	B1	20021105			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9804272	ICM	A61K031-715	
	ICS	C07H001-00	
US 2004121984	ECLA	A61K031/70J; A61K031/715; A61K031/715; C07H003/06	<--

AB **Mannose**-containing, branched **oligosaccharides** mediate binding of **chlamydia** to mammalian cells. The "**high mannose**-type" glycan was found to block adhesion of

chlamydiae to mammalian cells and thus to inhibit infectivity.
The glycan and its mimetics, including multivalent derivs., can be used as agents for treatment or prevention of **chlamydia**-based human diseases.

ST **Chlamydia** inhibition **mannose** contg **oligosaccharide**

IT Antibacterial agents
Chlamydia
Chlamydia pneumoniae
Chlamydia psittaci
Chlamydia trachomatis
Drug delivery systems
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT **Mannooligosaccharides**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT **Carbohydrates, biological studies**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT Glycoproteins, specific or class
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MOMP (major outer membrane protein); **Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT Ovalbumin
Ovomucoids
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glycopeptides from; **Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT **66091-47-2P 71246-55-4P 71496-53-2P**
77036-51-2P 77355-54-5P 83178-05-6P
84182-21-8P 84182-22-9P 85394-22-5P
93445-86-4P 114154-06-2P 114154-07-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT 69401-47-4 **77036-51-2D**, isomer
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

IT **70-47-3D, Asparagine, trimannosyl** core-**chitobiose** conjugates **577-76-4D, Chitobiose, trimannosyl** core conjugates 3458-28-4, **Mannose**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**Chlamydia mannose**-containing **oligosaccharides**, and use in inhibiting **chlamydial** infectivity)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Aizawa; US 5132413 A 1992 HCAPLUS
(2) Genetics Institute Inc; WO 9305803 A1 1993 HCAPLUS
(3) Kuo, C; The Journal of Clinical Investigation 1996, V98(12), P2813 HCAPLUS

(4) Swanson, A; Infection and Immunity 1990, V58(2), P502 HCAPLUS
(5) Swanson, A; Infection and Immunity 1994, V62(1), P24 HCAPLUS
(6) Tonen Corporation; EP 0677295 A1 1995 HCAPLUS
(7) Tonen Corporation; WO 9511704 A1 1995 HCAPLUS

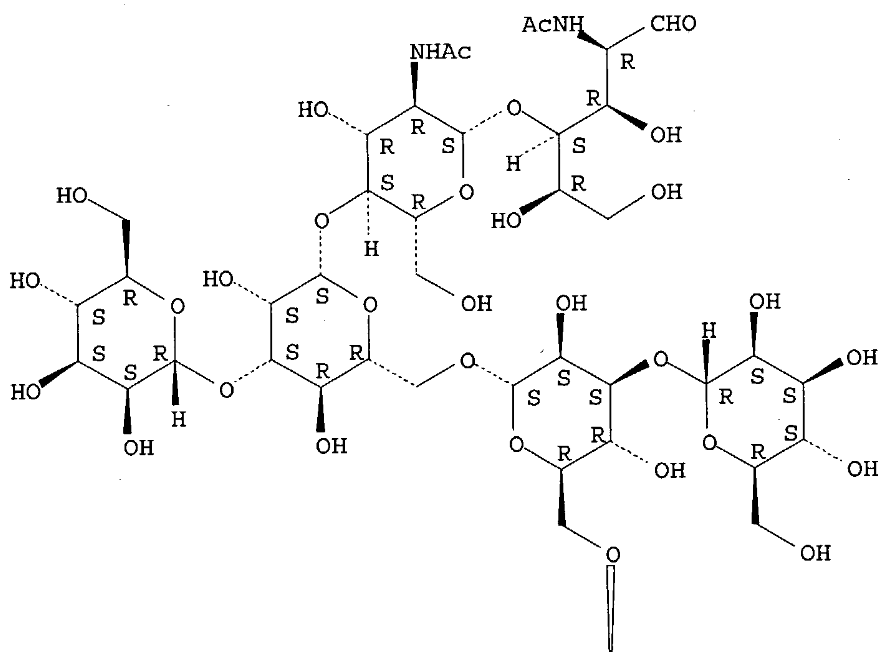
IT **66091-47-2P 71246-55-4P 71496-53-2P**
77036-51-2P 77355-54-5P 83178-05-6P
84182-21-8P 84182-22-9P 85394-22-5P
93445-86-4P 114154-06-2P 114154-07-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**
, and use in inhibiting **chlamydial** infectivity)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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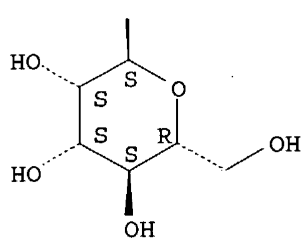
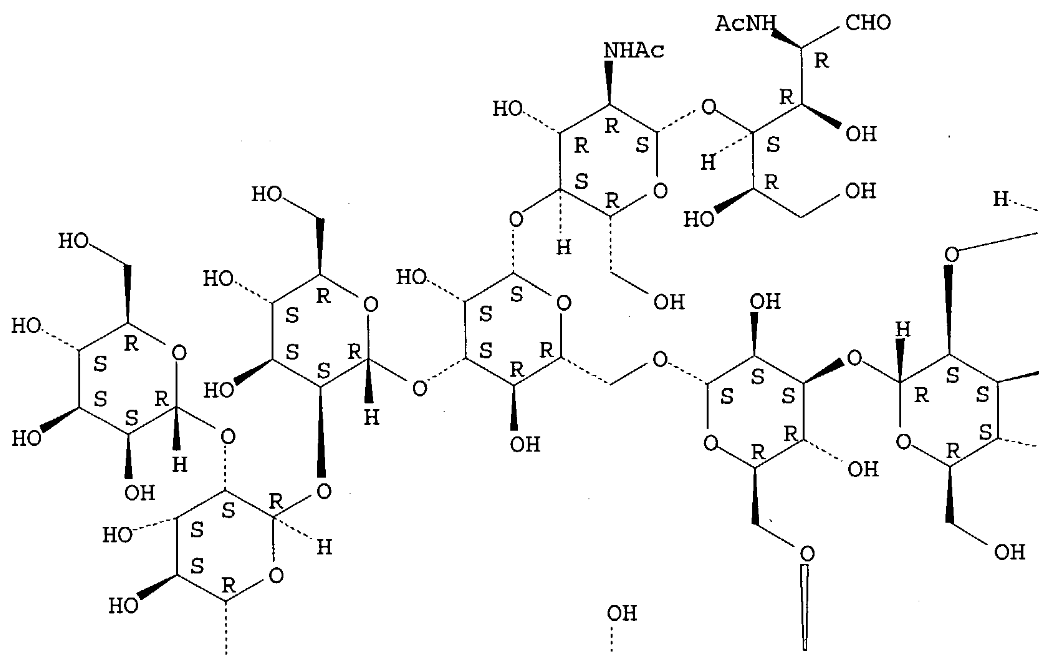


RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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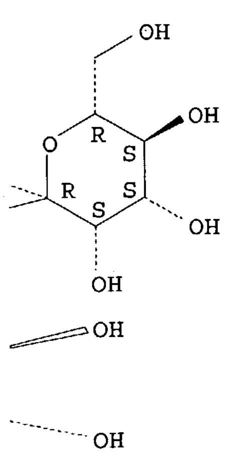

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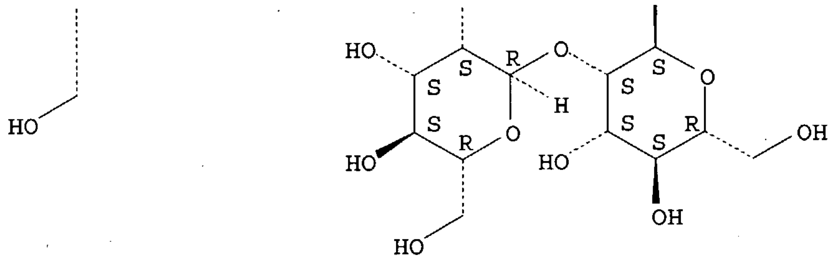
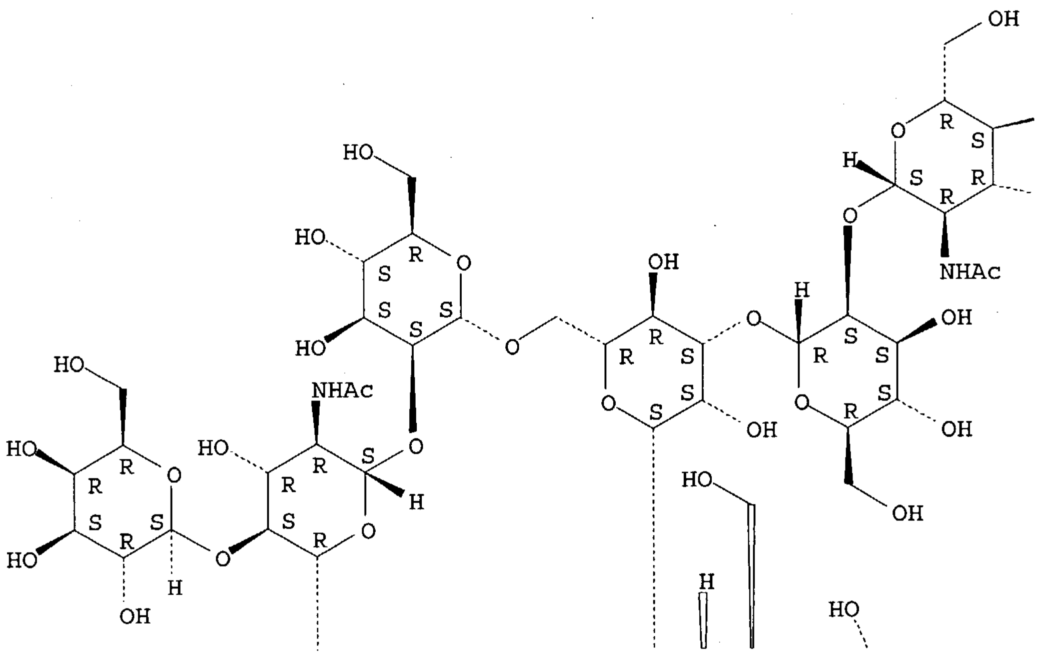


RN 71496-53-2 HCAPLUS

CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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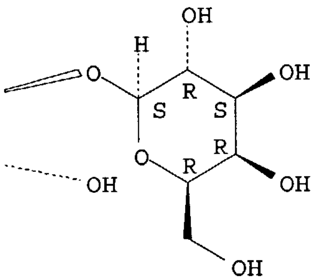

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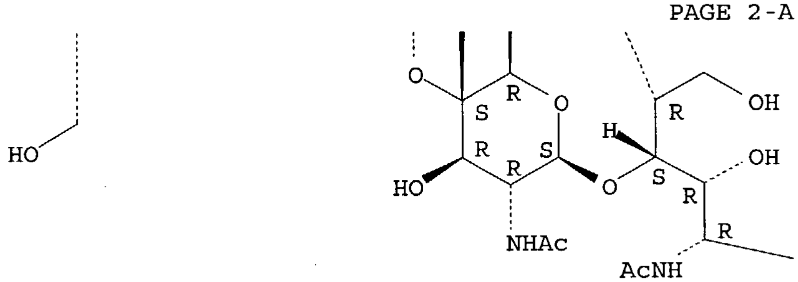

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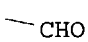

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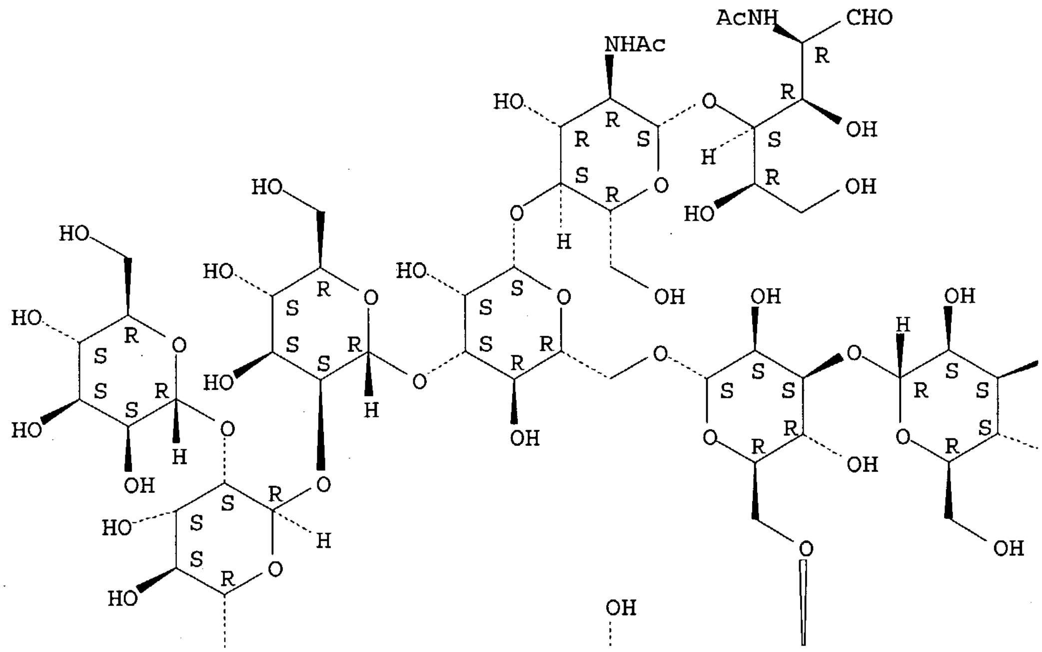
Absolute stereochemistry.

PAGE 1-A



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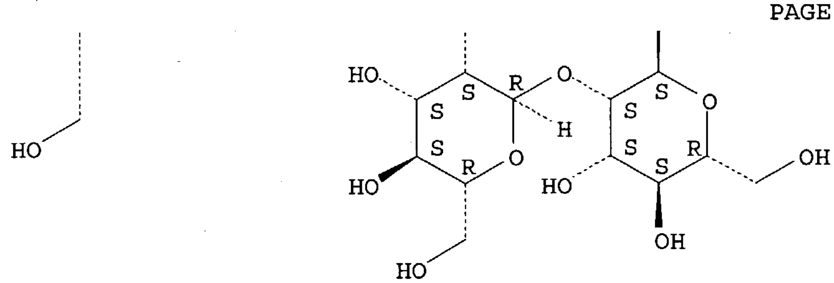
PAGE 2-A



RN 77355-54-5 HCAPLUS
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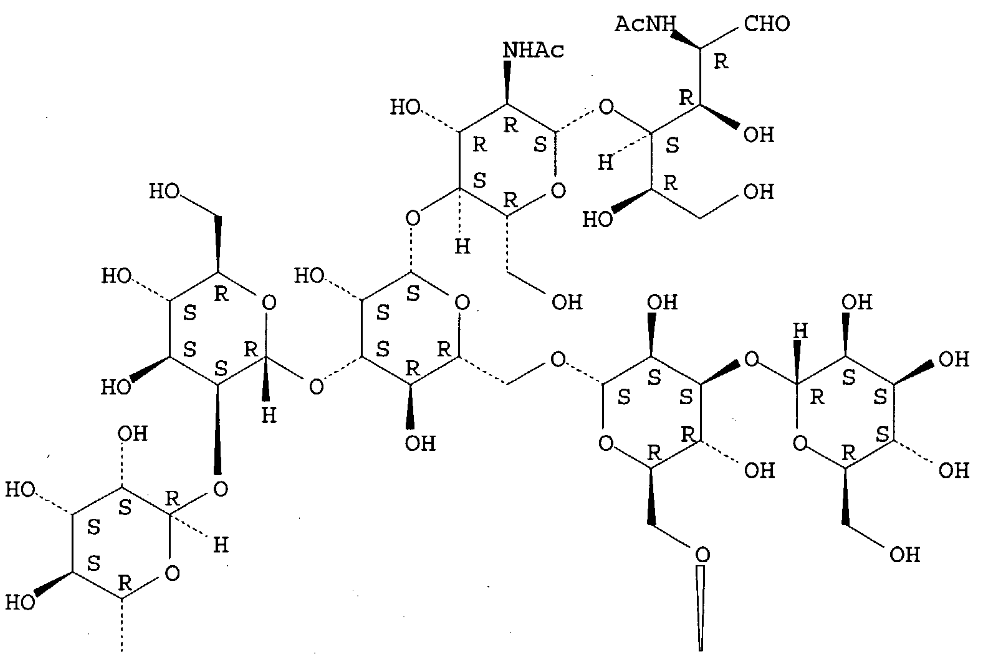
Absolute stereochemistry.

PAGE 1-A



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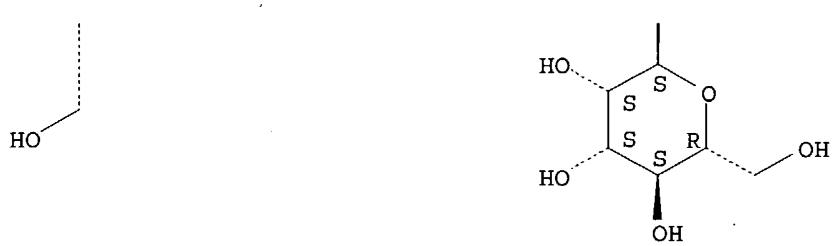

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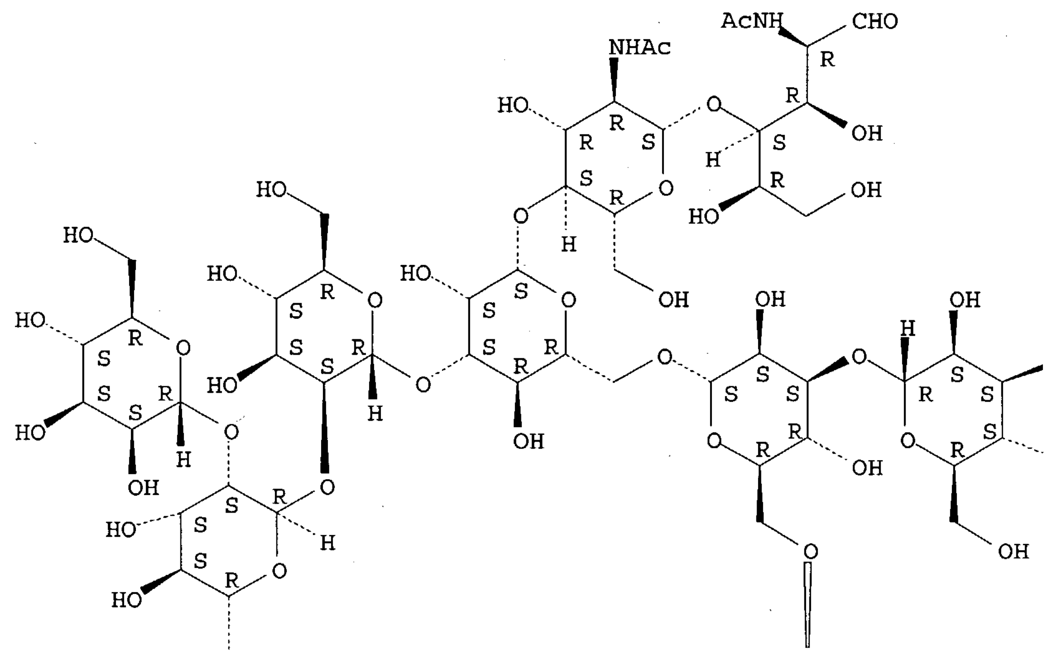
Absolute stereochemistry.

PAGE 1-A



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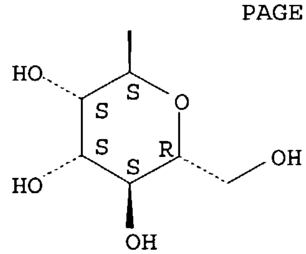
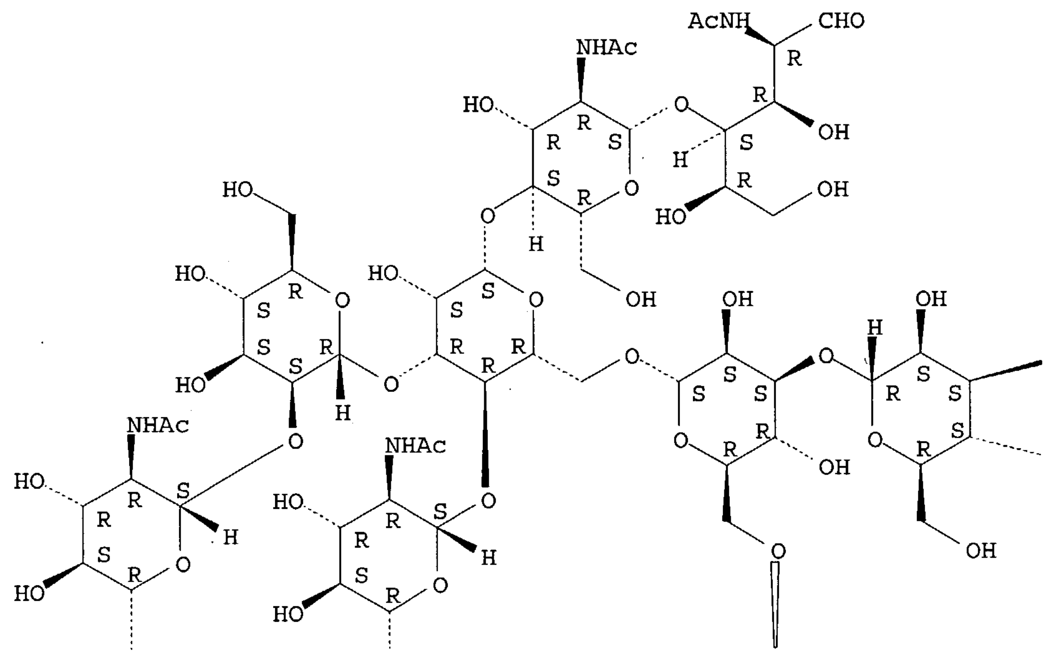


RN 84182-21-8 HCAPLUS

CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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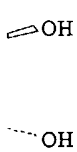

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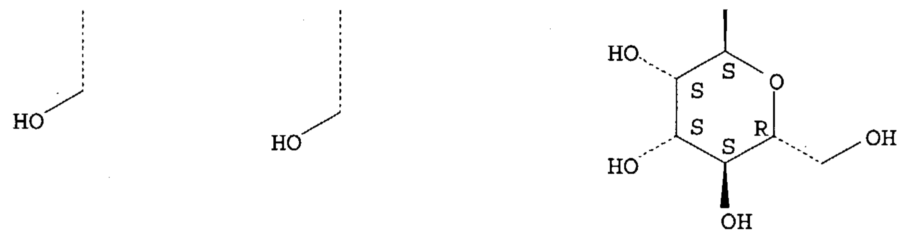

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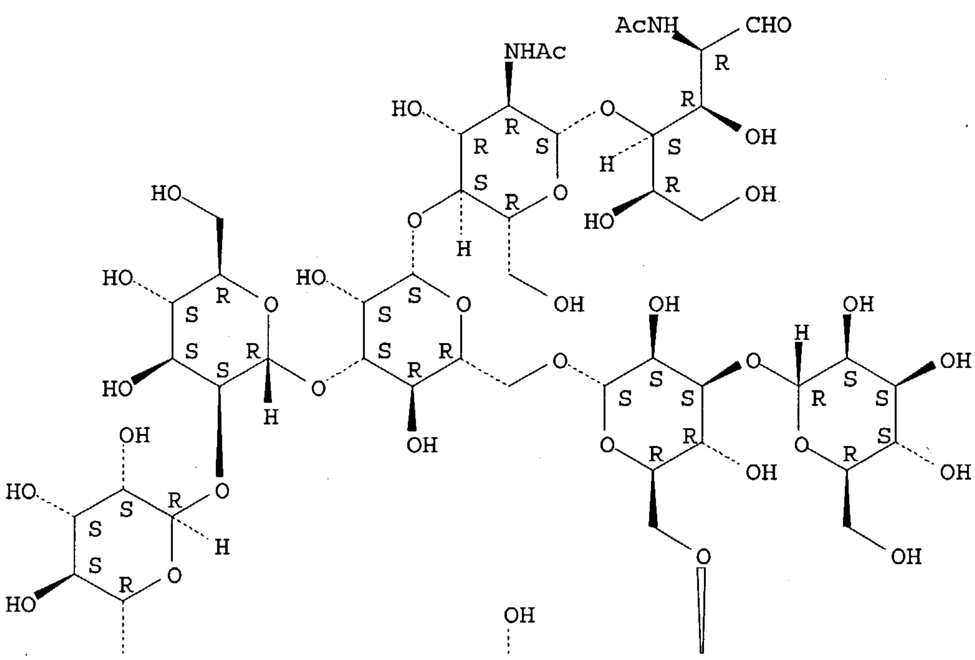
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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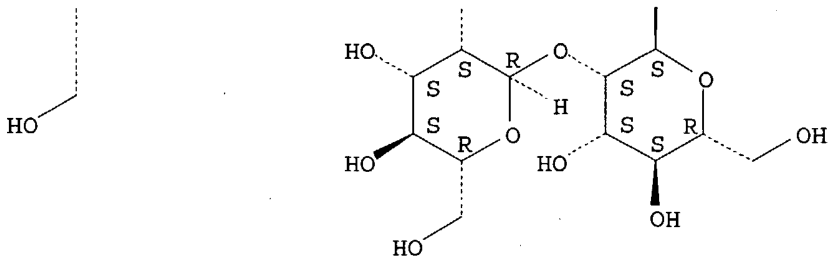
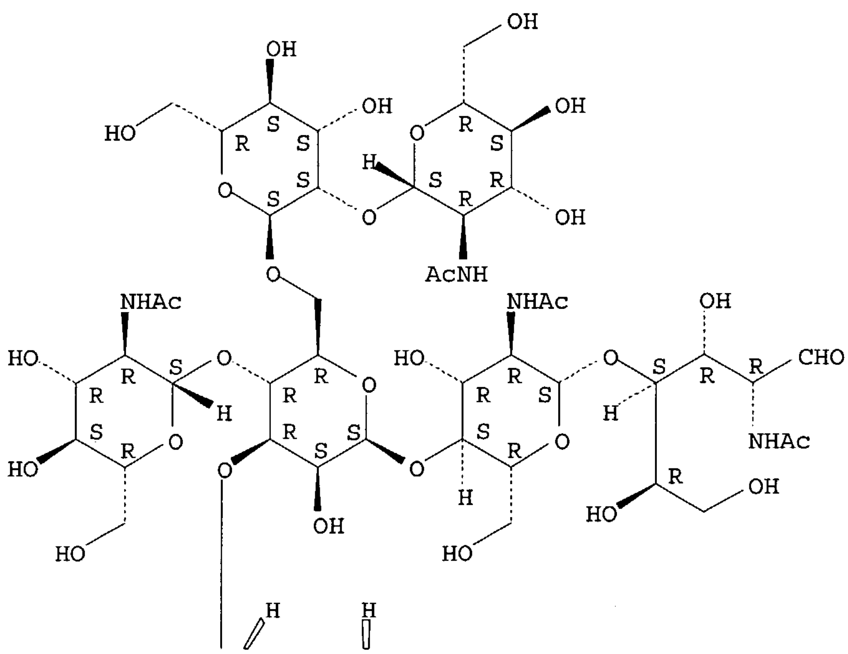


RN 85394-22-5 HCAPLUS
CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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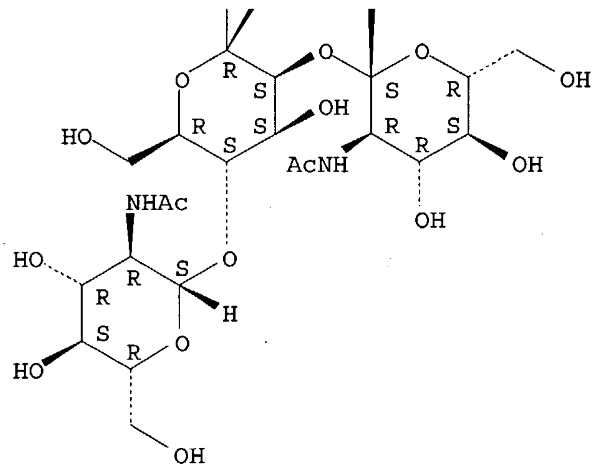

RN 93445-86-4 HCAPLUS
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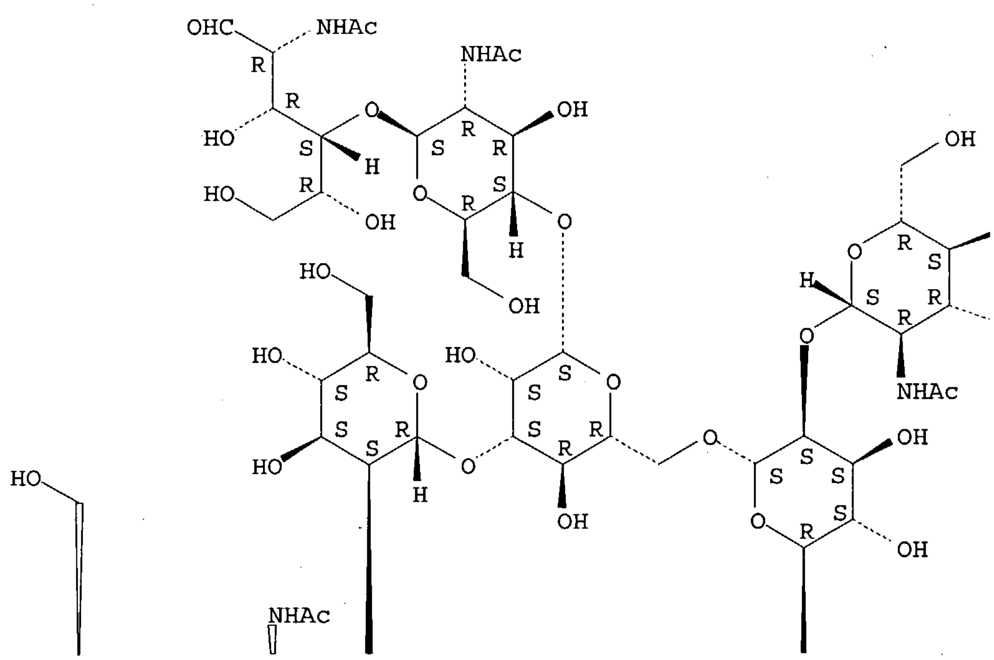
Absolute stereochemistry.

PAGE 1-A



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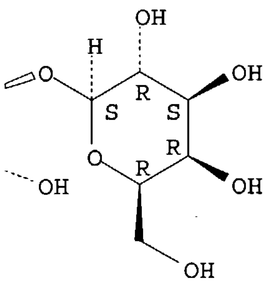

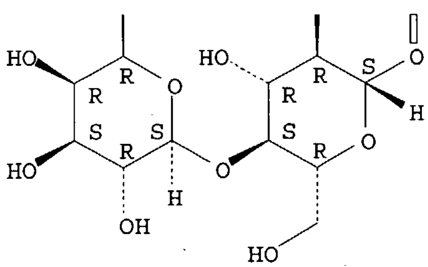

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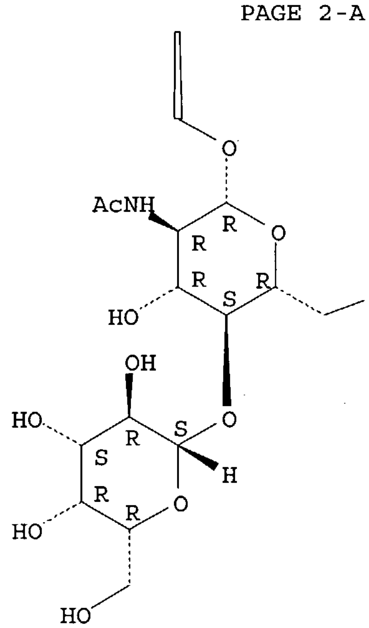

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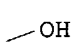
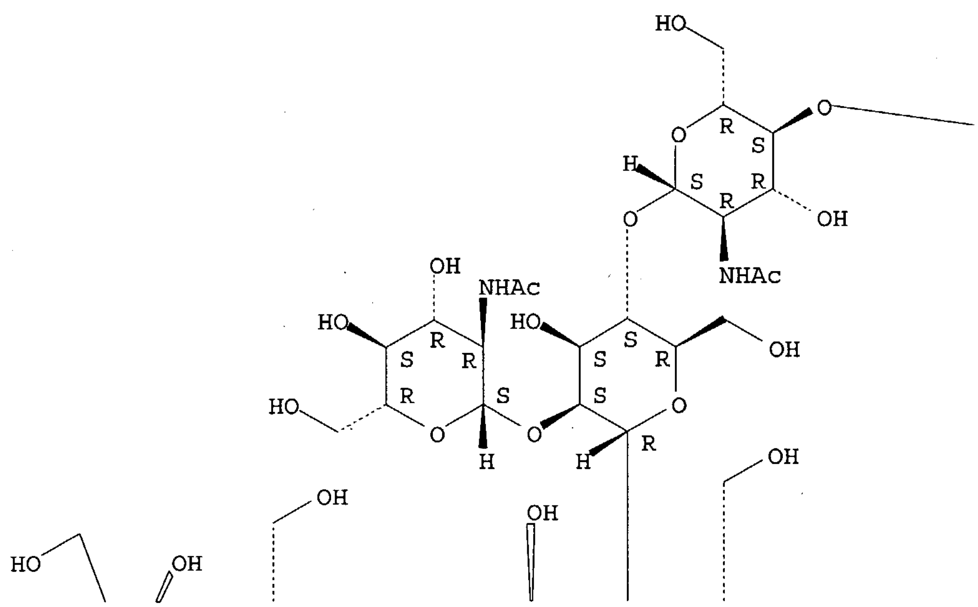


RN 114154-06-2 HCAPLUS
CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-

O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-α-D-mannopyranosyl-(1→3)]-O-[O-α-D-mannopyranosyl-(1→3)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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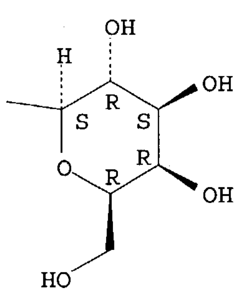

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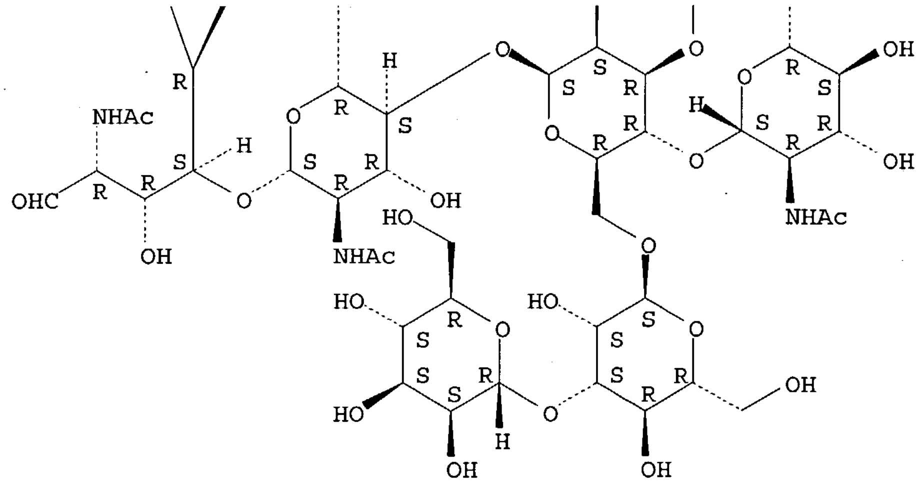

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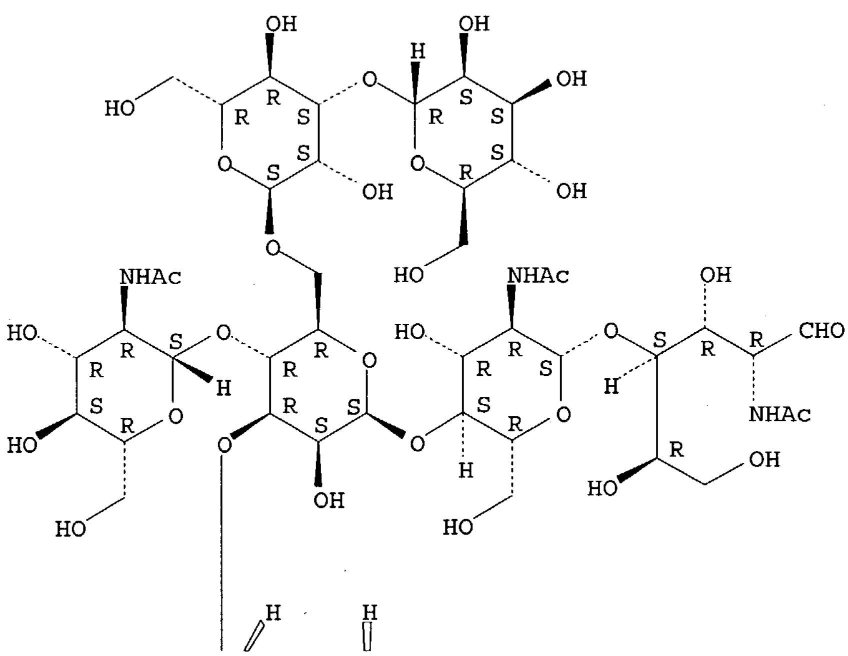
Absolute stereochemistry.

PAGE 1-A



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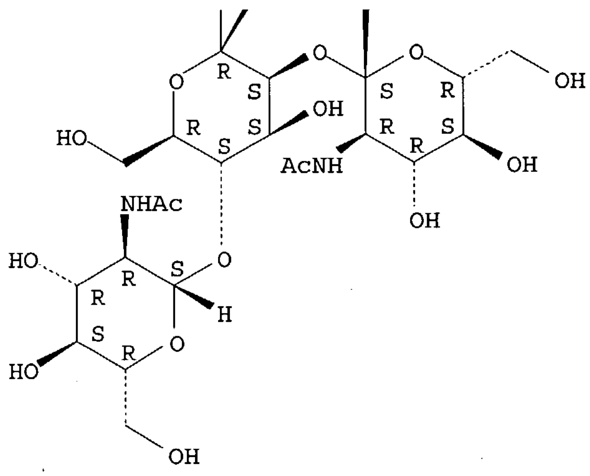


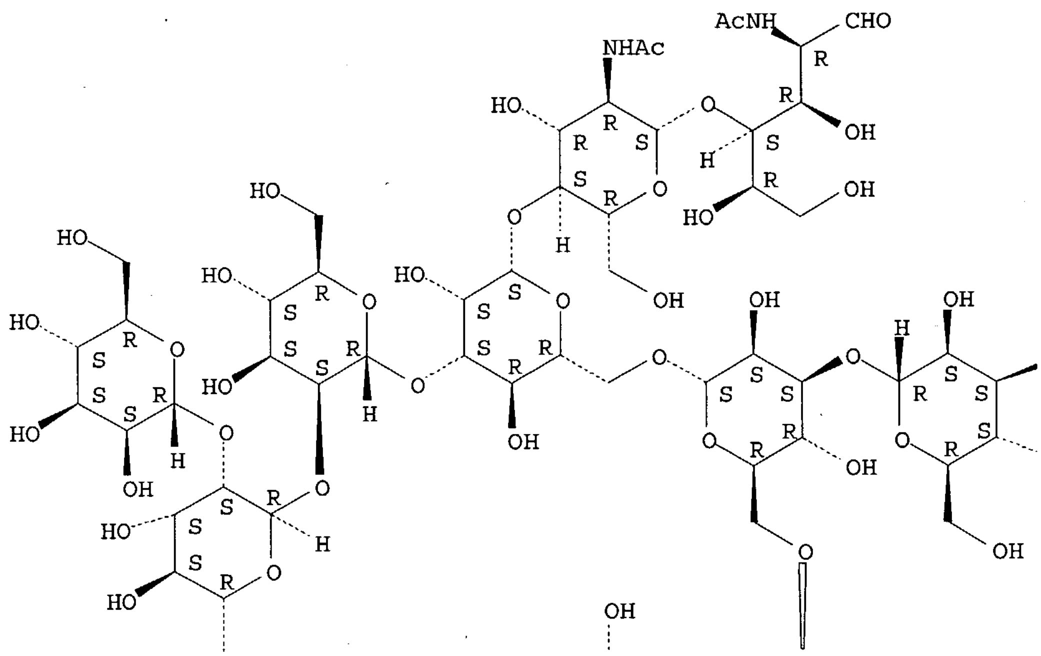
IT 77036-51-2D, isomer
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**Chlamydia mannose**-containing **oligosaccharides**
, and use in inhibiting **chlamydial** infectivity)

RN 77036-51-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

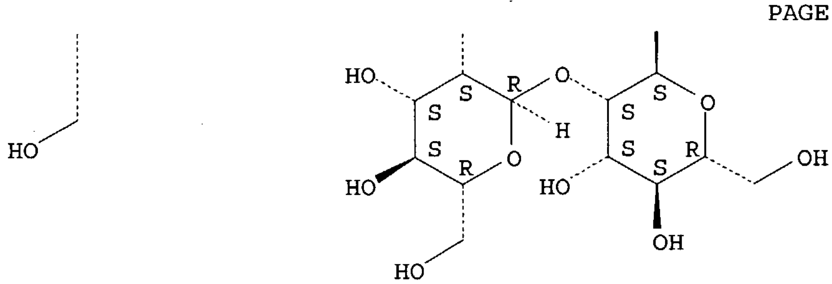
Absolute stereochemistry.

PAGE 1-A



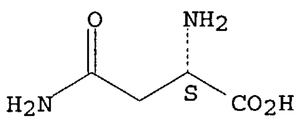
PAGE 1-B

PAGE 2-A



IT **70-47-3D, Asparagine, trimannosyl** core-
chitobiose conjugates **577-76-4D, Chitobiose,**
trimannosyl core conjugates
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**Chlamydia mannose**-containing **oligosaccharides**
, and use in inhibiting **chlamydial** infectivity)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 577-76-4 HCAPLUS
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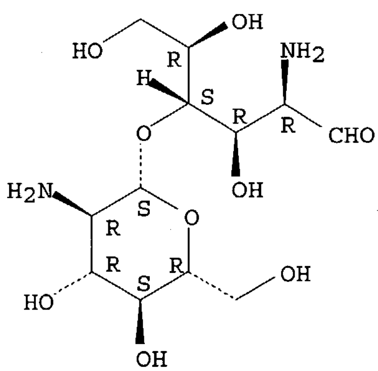
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L77 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:2750 HCAPLUS
DN 126:102397
ED Entered STN: 04 Jan 1997
TI An **N-linked high-mannose** type
oligosaccharide, expressed at the major outer membrane protein of
Chlamydia trachomatis, mediates attachment and infectivity of the
microorganism to HeLa cells
AU **Kuo, Cho-chou; Takahashi, Noriko; Swanson,**
Albertina F.; Ozeki, Yasuhiro; **Hakomori, Sen-itiroh**
CS Dep. Pathobiol., Univ. Washington, Seattle, WA, 98195, USA
SO Journal of Clinical Investigation (**1996**), 98(12), 2813-2818
CODEN: JCINAO; ISSN: 0021-9738
PB Rockefeller University Press
DT Journal
LA English
CC 14-3 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 10
AB The structure of the carbohydrate of the 40 kDa major outer membrane
component of **Chlamydia** trachomatis and its role in defining
infectivity of the organism were investigated. The
oligosaccharides were released from the glycoprotein by
N-glycanase digestion, coupled to a 2-aminopyridyl residue, and subjected

to two-dimensional sugar mapping technique. The major fractions consisted of "**high-mannose** type" **oligosaccharides** containing 8-9 **mannose** residues. Bi- and tri-antennary "complex type" **oligosaccharides** having terminal galactose were detected as minor components. These **oligosaccharides** were **N-linked** and contained no sialic acid. This structural profile is consistent with the authors' previous characterization based on lectin-binding and glycosidase digestion. Functional specificity of identified **chlamydial oligosaccharides** was analyzed using glycopeptides fractionated from ovalbumin and structurally defined **oligosaccharides** from other sources. The glycopeptide fraction having **high-mannose** type **oligosaccharide**, as compared to those having complex or hybrid-type, showed a stronger inhibitory effect on attachment and infectivity of **chlamydial** organisms to HeLa cells. Among **high-mannose** type **oligosaccharides**, the strongest inhibition was observed with **mannose** 8 as compared with **mannose** 6, 7, or 9. These results indicate that a specific **high-mannose** type **oligosaccharide** linked to the major outer membrane protein of C. trachomatis mediates attachment and infectivity of the organism to HeLa cells.

ST **Chlamydia oligosaccharide** MOMP protein attachment infectivity; major outer membrane protein **oligosaccharide** **Chlamydia**

IT Glycoproteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(MOMP (major outer membrane protein), **N-linked** **high-mannose oligosaccharide**-containing; **N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT Cell adhesion
Chlamydia trachomatis
HeLa cell
Virulence (microbial)
(**N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT **Mannooligosaccharides**
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT **Oligosaccharides**, biological studies
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**N-linked; N-linked** **high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT Infection
(bacterial; **N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT **Oligosaccharides**, biological studies
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(branched; **N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT Animal cell
(infection; **N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT Cell wall
(outer membrane; **N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

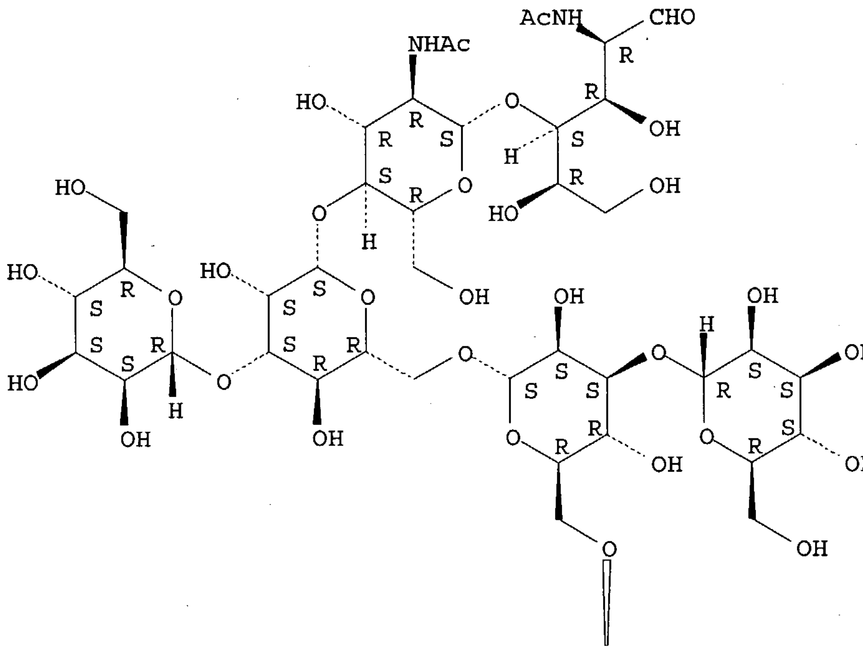
IT **66091-47-2 71246-55-4 71496-53-2**
77036-51-2 77355-54-5 83178-05-6
93445-86-4
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

IT **66091-47-2 71246-55-4 71496-53-2**
77036-51-2 77355-54-5 83178-05-6
93445-86-4
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(**N-linked high-mannose** type **oligosaccharide**, expressed at major outer membrane protein of **Chlamydia** trachomatis, mediates attachment and infectivity of microorganism to human HeLa cells)

RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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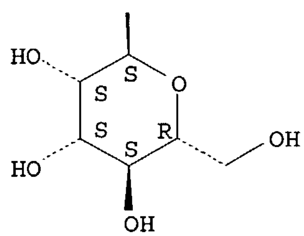

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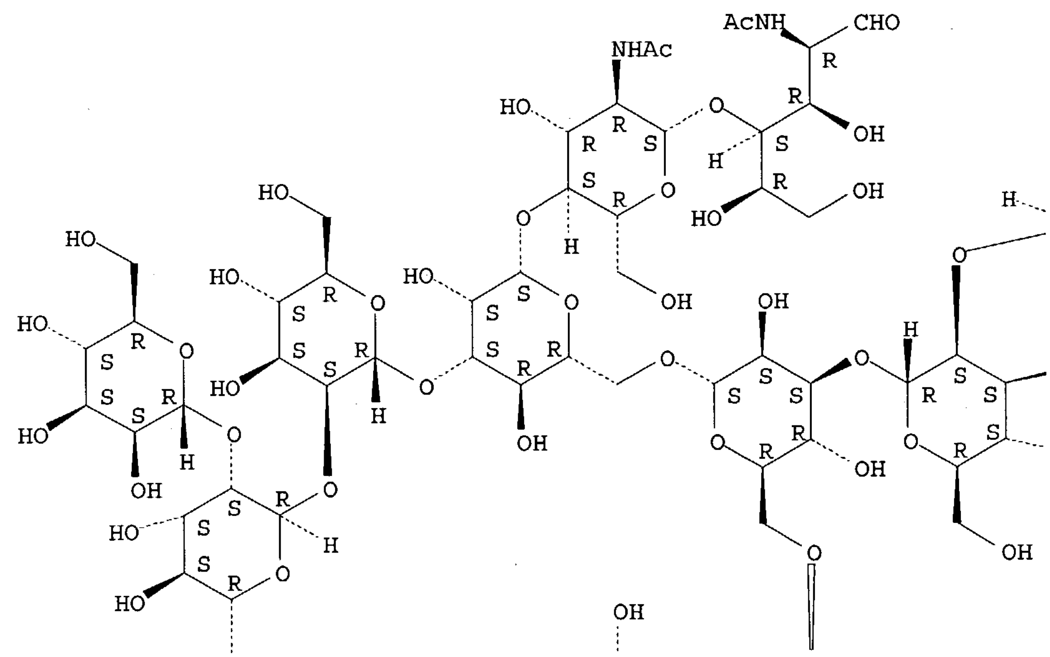
Absolute stereochemistry.

PAGE 1-A



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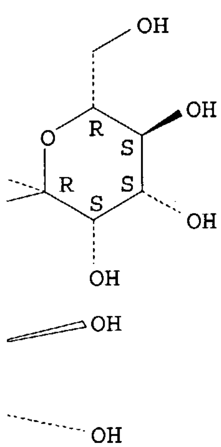

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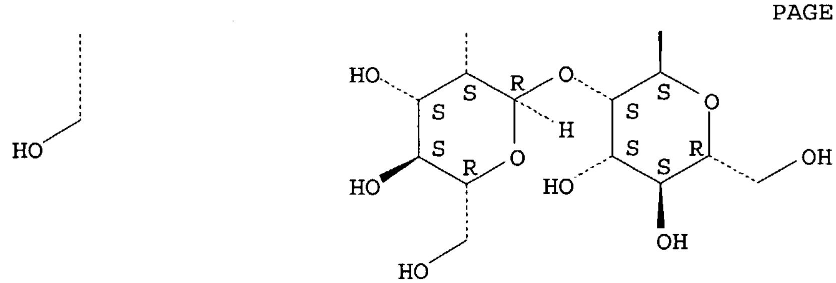

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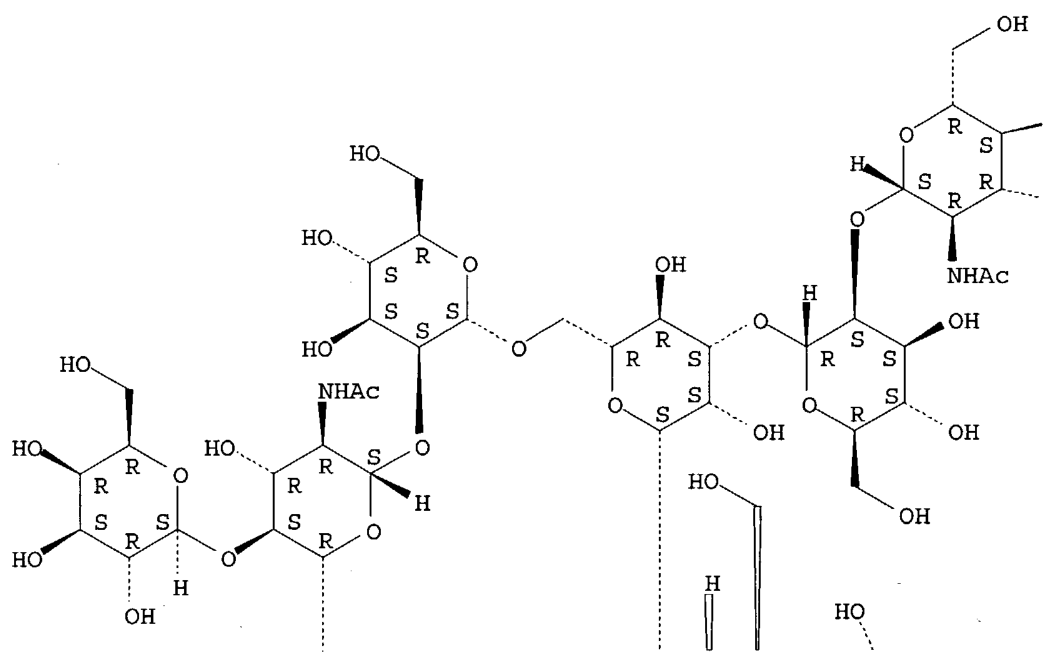
Absolute stereochemistry.

PAGE 1-A



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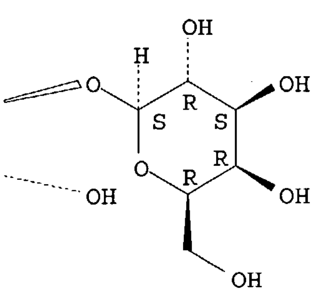

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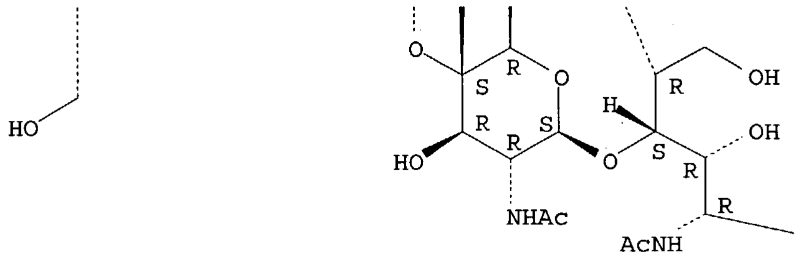

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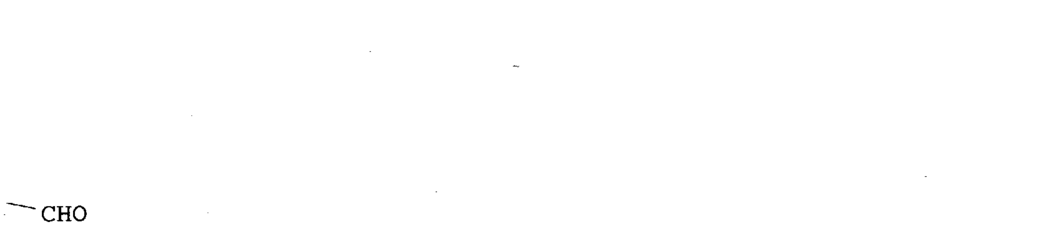

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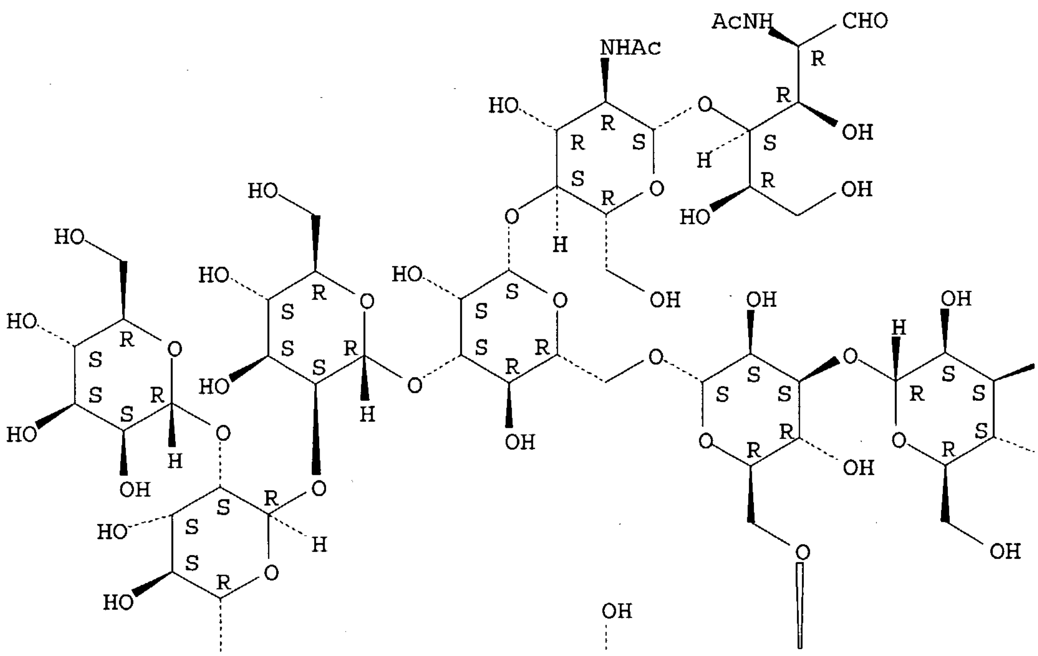
Absolute stereochemistry.

PAGE 1-A



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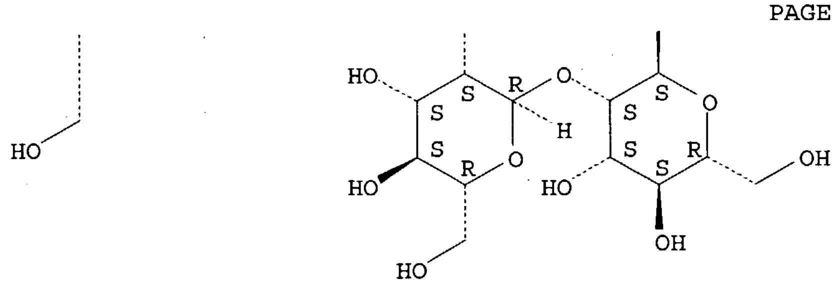
PAGE 2-A



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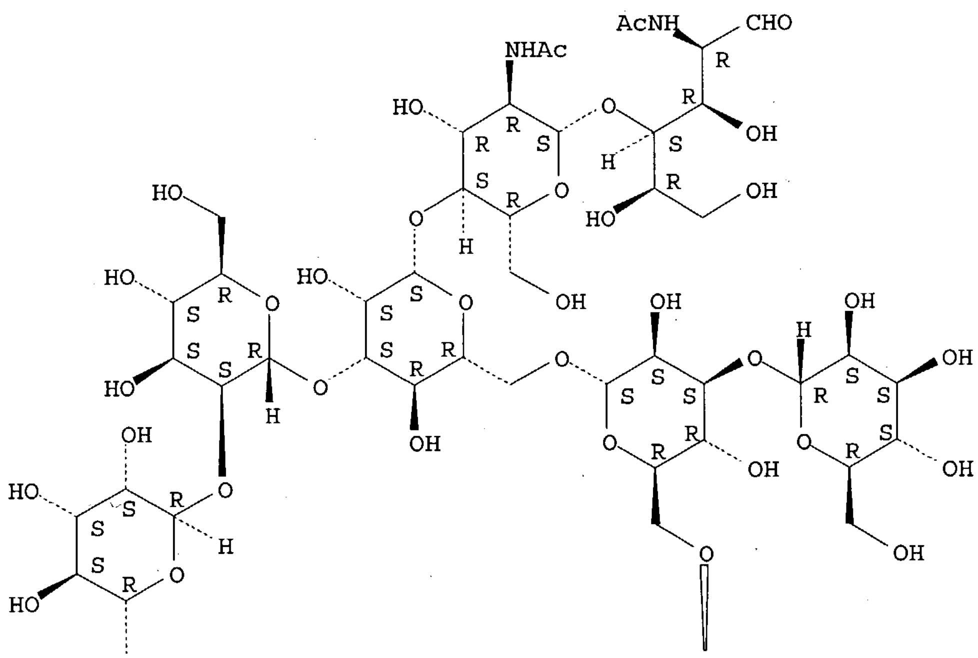
Absolute stereochemistry.

PAGE 1-A



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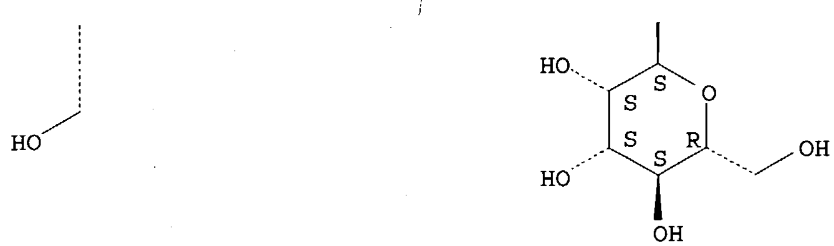

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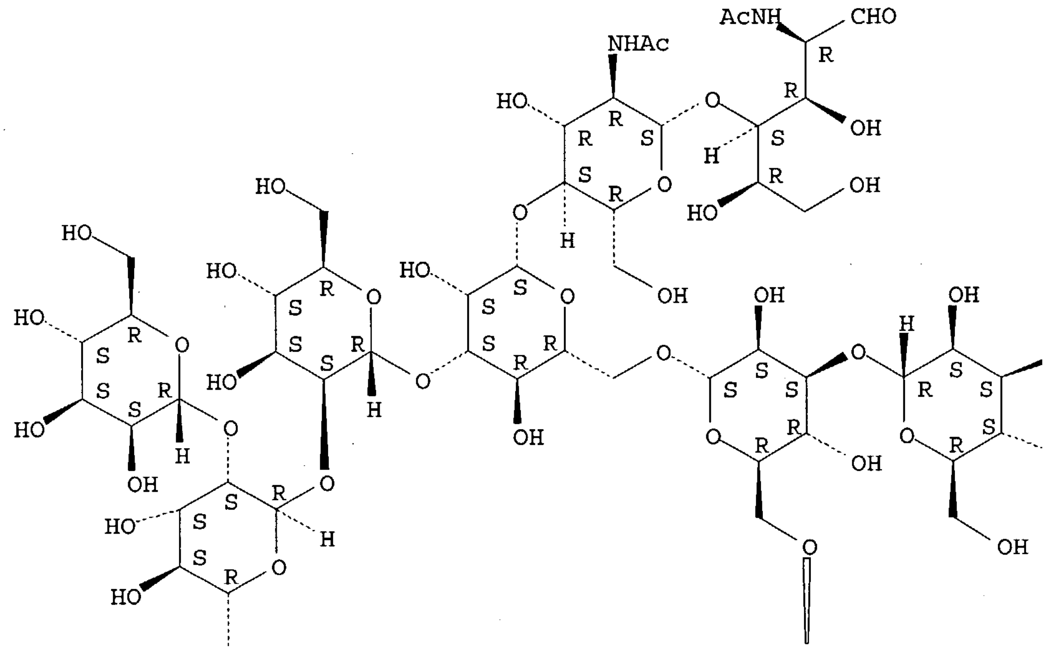
Absolute stereochemistry.

PAGE 1-A



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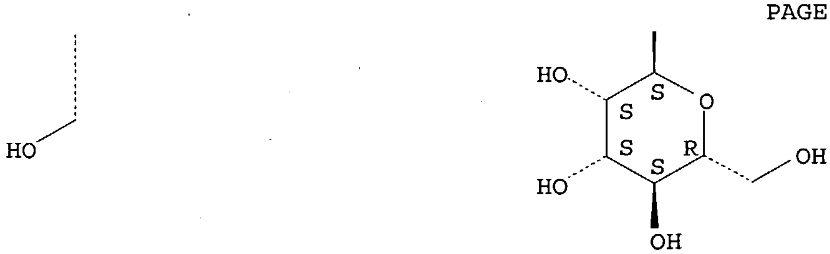
PAGE 2-A

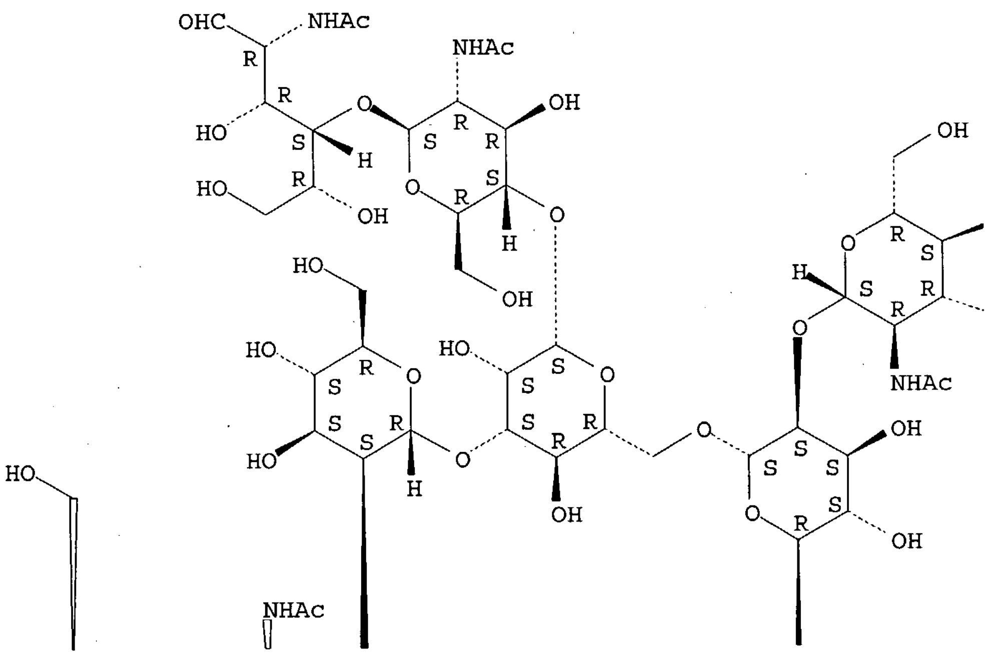


RN 93445-86-4 HCAPLUS

CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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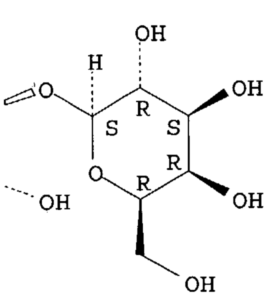

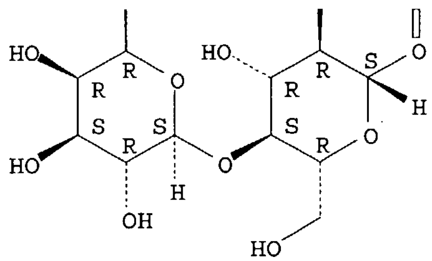

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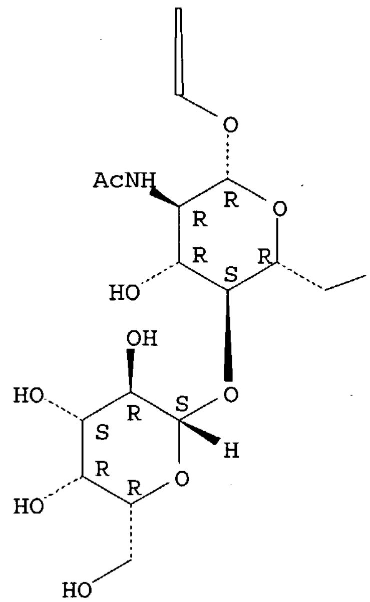

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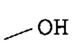

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                E KUO CHO/AU
L3           71 S E4-E6,E9
                E SWANSON A/AU
L4           12 S E3,E8
L5           11 S E27
                E HAKOMORI S/AU
L6          220 S E3,E4,E7,E8
L7          382 S E17-E19
                E TAKAHASHI N/AU
L8          566 S E3-E6
                E TAKAHASHI NOR/AU
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L11          11 S L10 AND ?SACCHARIDE?
L12           2 S L10 AND CARBOHYDRATE?/SC,SX,CW,CT
L13          11 S L11,L12
L14           8 S L13 AND ?MANNO?
L15           3 S L13 NOT L14
L16           6 S L14 AND (N LINK? OR ?ACETYLGLUCOSAMINE? OR CHITOBIOSE OR ASPA
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L27        5778 S L25 FUL
                SAV L27 MAIER714/A
L28             STR L25
L29          50 S L28 SAM SUB=L27
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                SAV L30 MAIER714A/A
L31             STR L28
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L47          33 S L46 AND (N LINK? OR ?ACETYLGLUCOSAMINE? OR ?CHITOBIOS? OR ?AS
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L49          20 S L46 AND ?MANNO?
L50           8 S L46 AND ASN
L51          13 S L48,L49 AND L47,L50
L52          13 S L51 AND ?MANNO?
L53           7 S L52 AND HIGH MANNO?
                E CHLAMYDIA/CT
                E E3+ALL
L54        4097 S E5,E4+NT
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                E E2+ALL
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L69           18 S L65,L66 AND L43,L44
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L71            2 S L65,L66 AND L60
L72            3 S L60,L71
L73           16 S L69-L70 NOT L72
L74            3 S L61,L62 AND L54-L56
L75            3 S L61,L62 AND CHLAMYD?
L76            3 S L72,L74,L75
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                 SEL HIT RN

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     FILE 'HCAPLUS' ENTERED AT 11:09:38 ON 07 OCT 2004

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FILE COVERS 1907 - 7 Oct 2004 VOL 141 ISS 15
FILE LAST UPDATED: 6 Oct 2004 (20041006/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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AN 1997:508107 HCAPLUS
DN 127:203168
ED Entered STN: 11 Aug 1997
TI Microheterogeneity of the oligosaccharides carried by the recombinant bovine lactoferrin expressed in Mamestra brassicae cells
AU Lopez, Michel; Coddeville, Bernadette; Langridge, James; Plancke, Yves; Sautiere, Pierre; Chaabihi, Hassan; Chirat, Frederic; Harduin-Lepers, Anne; Cerutti, Martine; Verbert, Andre; Delannoy, Philippe
CS Laboratoire de Chimie Biologique, Unite Mixte de Recherche du CNRS n° 111, Universite des Sciences et Technologies de Lille, Villeneuve d'Ascq, F-59655, Fr.
SO Glycobiology (**1997**), 7(5), 635-651
CODEN: GLYCE3; ISSN: 0959-6658
PB Oxford University Press
DT Journal
LA English
CC 12-2 (Nonmammalian Biochemistry)
AB The development of therapeutic glycoprotein production using the baculovirus expression system depends on the ability of insect cell lines to reproduce site specific mammalian-like N-glycans. A combination of 1H-NMR and mass spectrometry techniques (MALD-MS, ES-MS, and CID-MS-MS) allowed us to elucidate the N-linked oligosaccharides microheterogeneity on three different N-glycosylation sites, Asn233, Asn476, and Asn545, of a baculovirus-expressed recombinant bovine lactoferrin produced in Mamestra brassicae. Two families of N-glycan structures have been found: first, oligomannosidic glycans (Man9-5GlcNAc2) and secondly, short truncated partially fucosylated glycans (Man3-2[Fuc0-1]GlcNAc2). These results indicate that Mamestra brassicae cell line is not able to synthesize complex N-glycans, even if an α1,6-linked fucose residue is frequently present on the **asparagine**-bound N-acetylglucosamine residue of short truncated structures. Nevertheless, we have shown that Mamestra brassicae ensures the same N-glycosylation pattern as found on natural bovine lactoferrin showing the same distribution between complex and **high-mannose** type glycans on the different glycosylation sites. Sites which are naturally occupied by **high -mannose** glycans (Asn233 and Asn545) are substituted essentially by the same type of N-glycans in the recombinant counterpart, and the site Asn476, which carries sialylated complex type chains in the natural glycoprotein, is substituted by short, truncated, partially fucosylated chains in Mamestra brassica-expressed bovine lactoferrin. These various results lead us to the conclusion that bovine lactoferrin is an interesting model to determine the potential of glycosylation of the baculovirus/insect cell expression systems.
ST glycosylation lactoferrin oligosaccharide insect cell
IT Oligosaccharides, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)

(N-linked; microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

IT Glycosylation
Mamestra brassicae
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

IT Glycoproteins, general, biological studies
Lactoferrins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

IT **70-47-3**, L-**Asparagine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

IT **66091-47-2 70858-45-6 71246-55-4**
77036-51-2 77355-54-5 78392-31-1
81046-85-7 83178-05-6 95041-21-7 110387-51-4
120448-61-5
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

RE.CNT 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD

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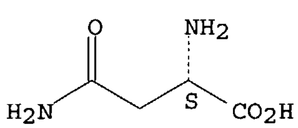
IT **70-47-3**, L-**Asparagine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

RN 70-47-3 HCAPLUS

CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **66091-47-2 70858-45-6 71246-55-4**
77036-51-2 77355-54-5 78392-31-1
81046-85-7 83178-05-6
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)

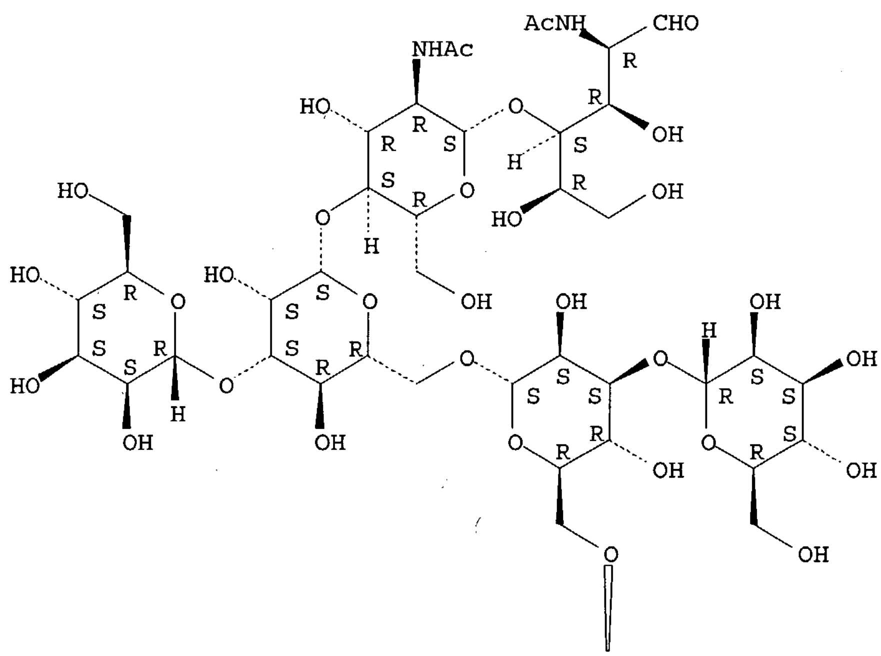
(microheterogeneity of the oligosaccharides carried by recombinant bovine lactoferrin expressed in Mamestra brassicae cells)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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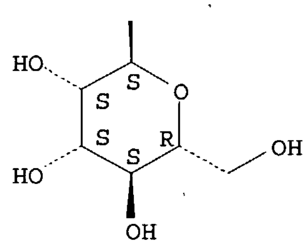

RN 70858-45-6 HCAPLUS

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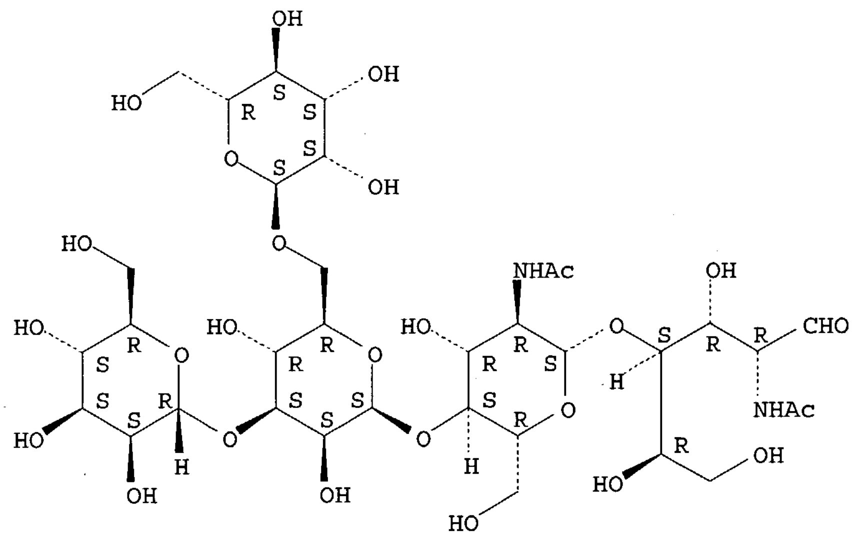
Absolute stereochemistry.



RN 71246-55-4 HCAPLUS
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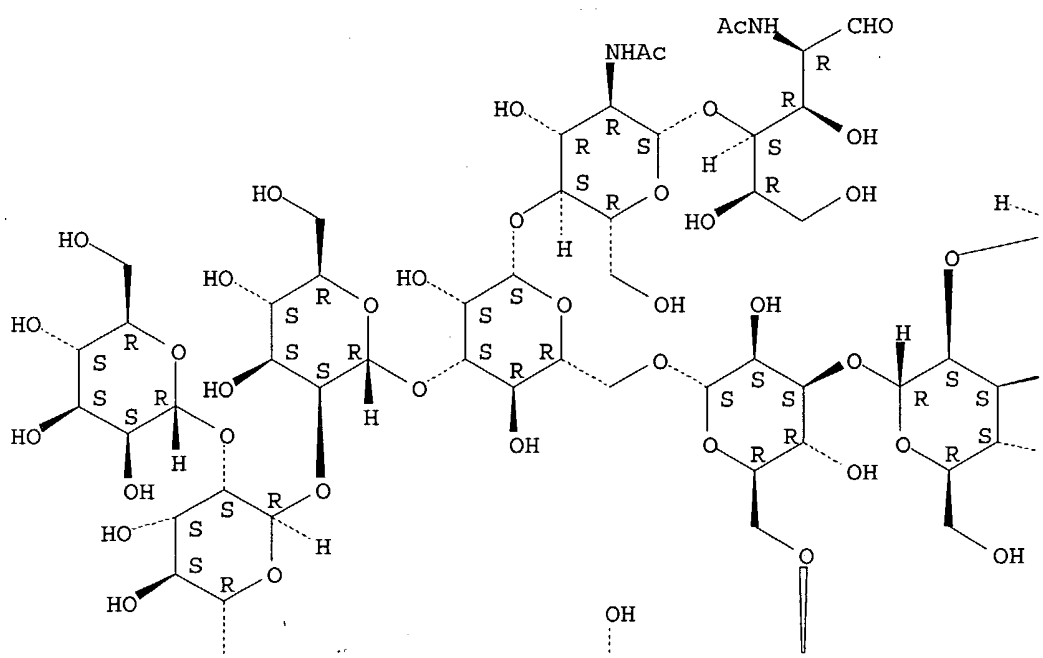
Absolute stereochemistry.

PAGE 1-A



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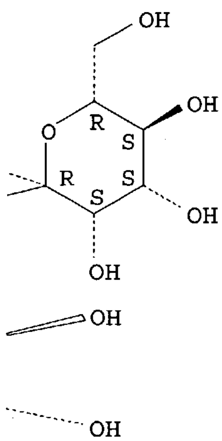

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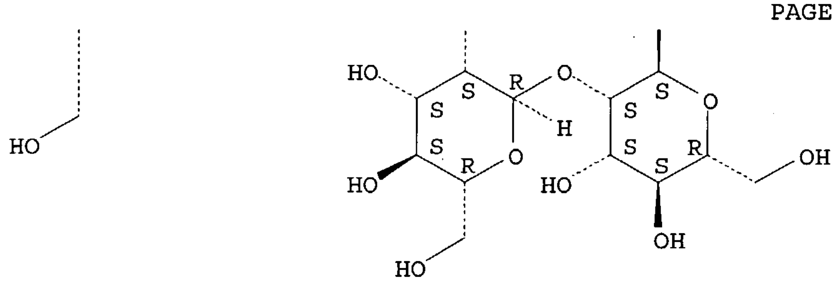

RN 77036-51-2 HCAPLUS
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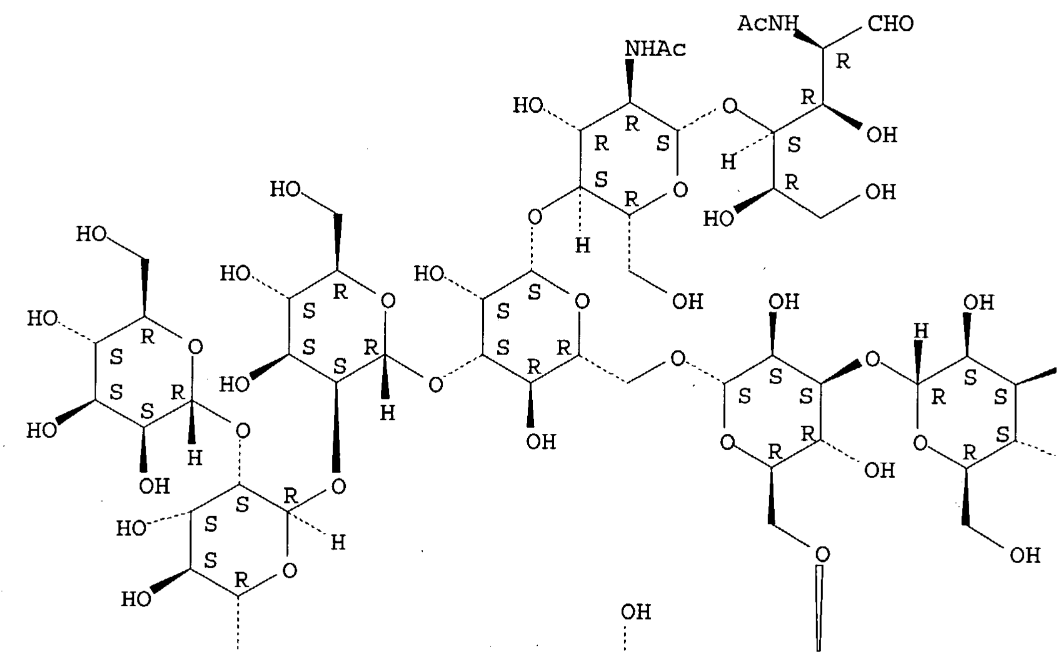
Absolute stereochemistry.

PAGE 1-A



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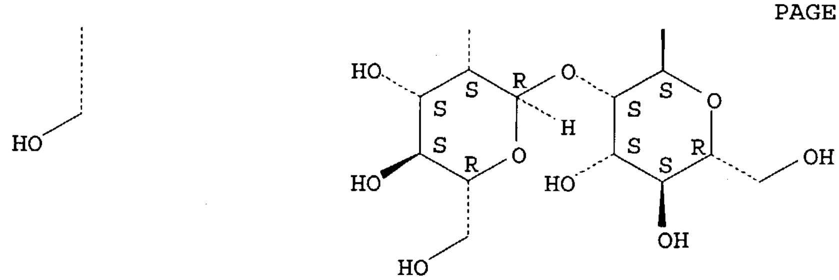

RN 77355-54-5 HCAPLUS
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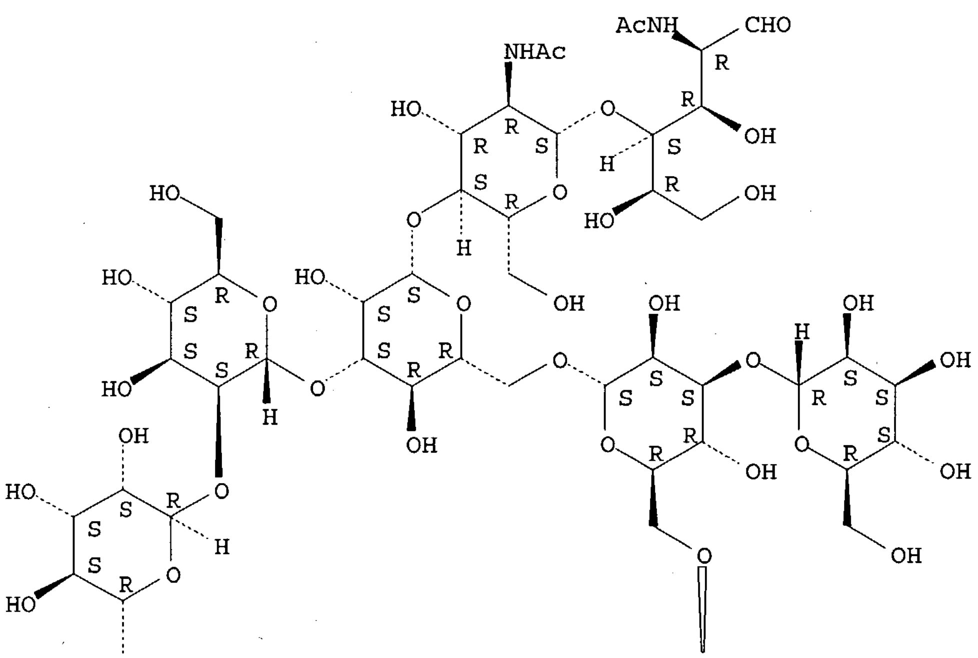
Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

RN 78392-31-1 HCAPLUS
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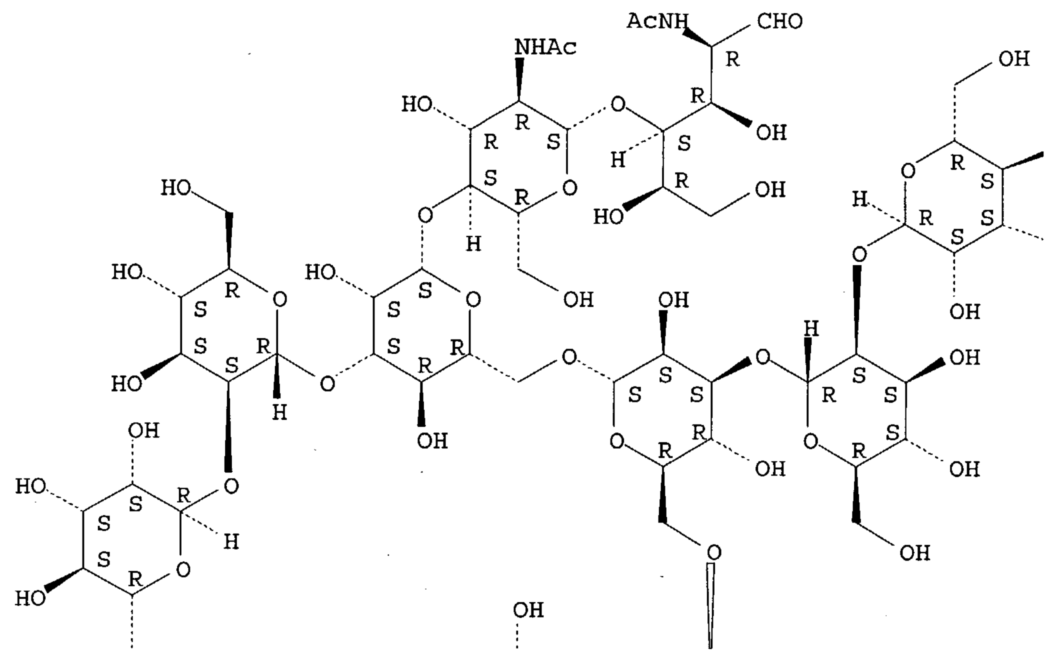
Absolute stereochemistry.

PAGE 1-A



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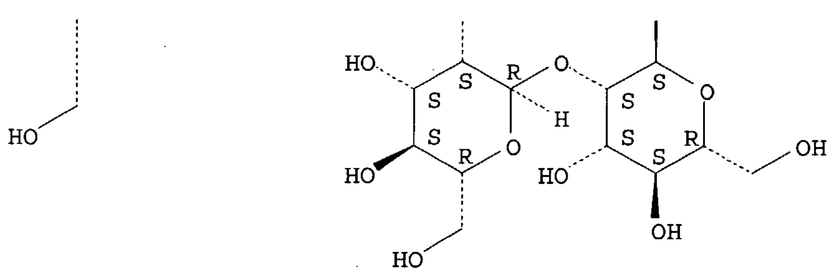

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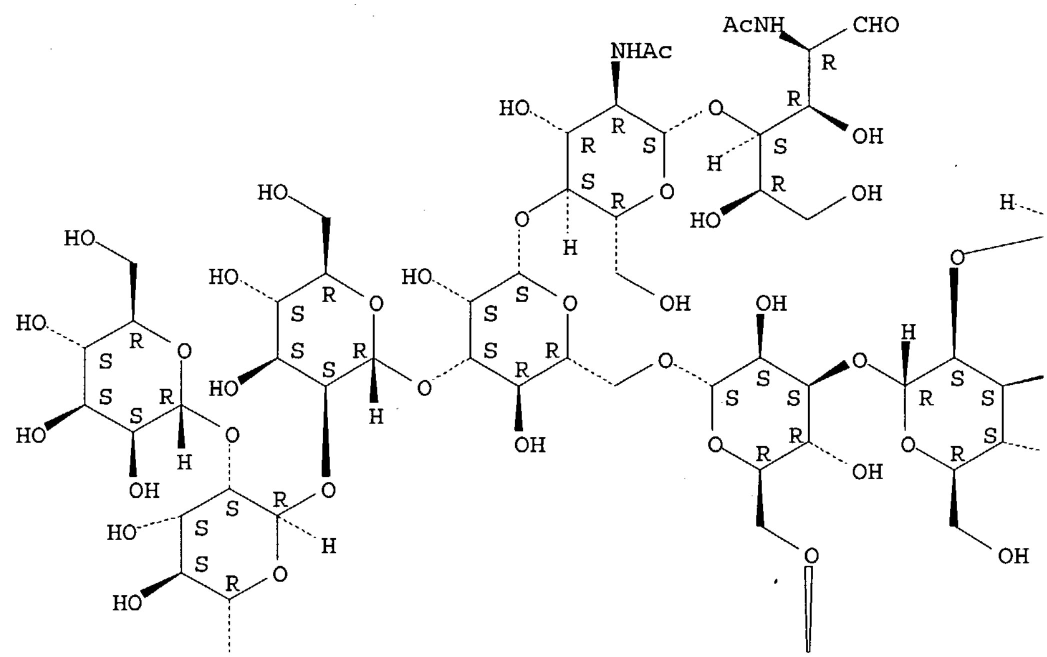
2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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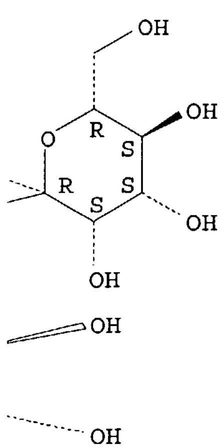

PAGE 2-A

RN 83178-05-6 HCAPLUS
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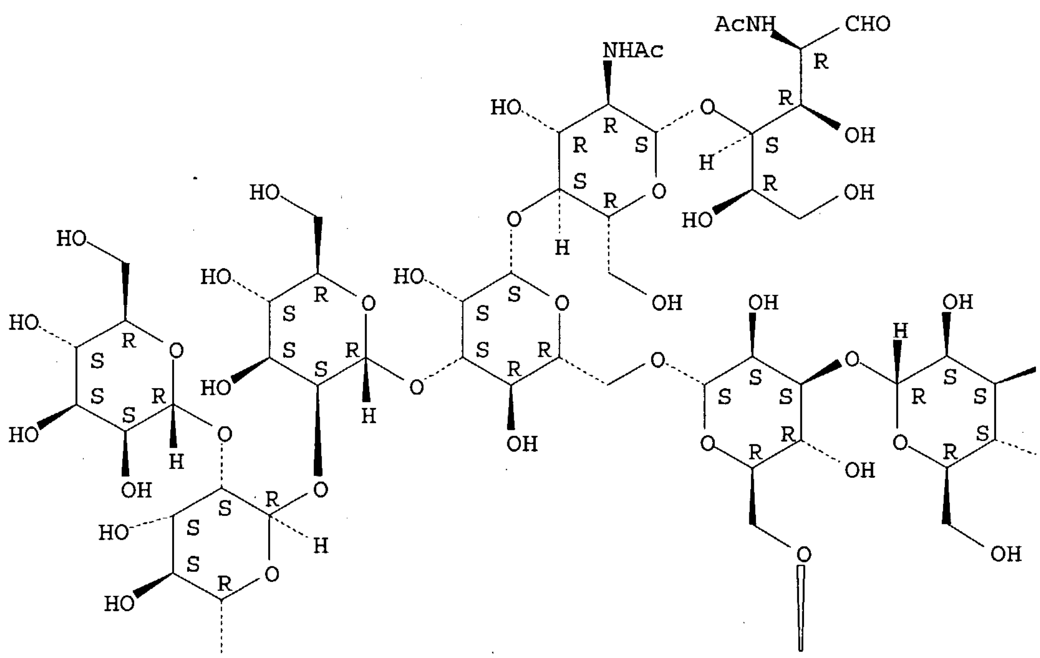
Absolute stereochemistry.

PAGE 1-A



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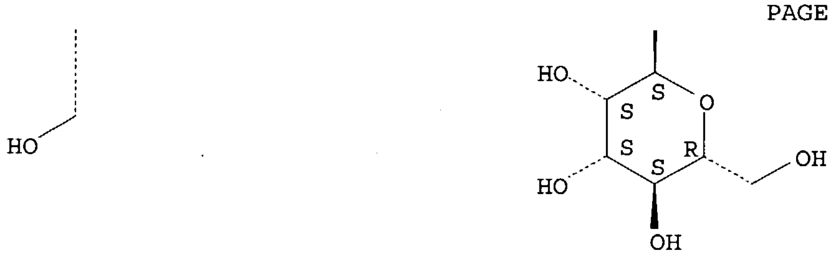
PAGE 2-A



L91 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:238435 HCAPLUS
DN 126:313764
ED Entered STN: 12 Apr 1997
TI Structure of Human Transferrin Receptor Oligosaccharides: Conservation of Site-Specific Processing
AU Hayes, Gary R.; Williams, Anthony M.; Lucas, John J.; Enns, Caroline A.
CS Department of Biochemistry and Molecular Biology, State University of New York Health Sciences Center, Syracuse, NY, 13201, USA
SO Biochemistry (**1997**), 36(17), 5276-5284
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The human transferrin receptor (TfR) has three N-linked oligosaccharides. A combination of site-directed mutagenesis and carbohydrate and protein chemical was used to characterize the structures of the N-linked oligosaccharides and to map their locations. The authors find that the type of oligosaccharide at each position was unique for that particular site. Human TfR isolated from placentae was used to characterize the structure of the oligosaccharides found in the native TfR. Following digestion of purified TfR with trypsin, individual peptides were obtained via RP-HPLC and were assayed for monosaccharides by strong acid hydrolysis and HPAE-PAD. Peptides containing carbohydrate were subjected to amino acid sequencing to identify the specific **Asn** residue. The oligosaccharides at **Asn** 251 are of the complex type. HPAE-PAD and FACE anal. suggests that they are triantennary and trisialylated with

core fucosylation. The glycopeptide containing the site at **Asn** 317 was obtained after limited tryptic digestion and RP-HPLC. FACE anal. reveals predominantly a family of sialylated hybrid oligosaccharides. The consensus sequences for each N-linked site were mutated in various combinations and the resultant TfRs expressed in mouse 3T3 cells. Endoglycosidase H digestion of the mutated TfRs indicates that the pattern of oligosaccharides is consistent with the type of oligosaccharides found at each position in human tissue and the glycosylation of one site does not directly affect the glycosylation of other sites. Previous studies indicated that the oligosaccharide at **Asn** 727 was **high -mannose** type [Hayes, G. R., et al. (1995) Glycobiol. 5, 227-232]. These results indicate that the type of oligosaccharide found at each site is most dependent on the environment surrounding it.

ST transferrin receptor oligosaccharide structure; glycosylation site transferrin receptor

IT Oligosaccharides, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(N-linked; characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

IT Glycosylation
(biol.; characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

IT Transferrin receptors
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

IT Protein motifs
(glycosylation site; characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

IT **70-47-3**, L-**Asparagine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

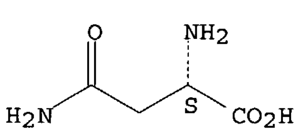
IT 83412-55-9D, sialylated 112822-58-9D, sialylated **189386-85-4**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

IT **70-47-3**, L-**Asparagine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

RN 70-47-3 HCAPLUS

CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



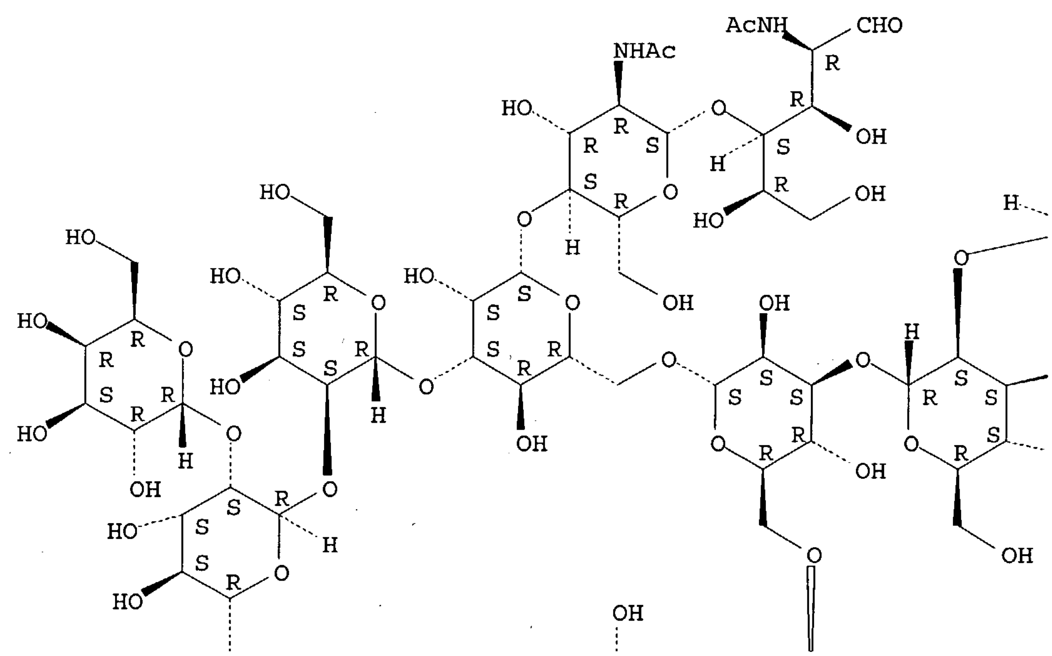
IT **189386-85-4**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(characterization of oligosaccharide structure and identification of glycosylation sites of human transferrin receptor)

RN 189386-85-4 HCAPLUS

CN D-Glucose, O-α-D-galactopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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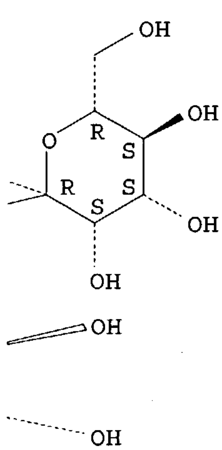

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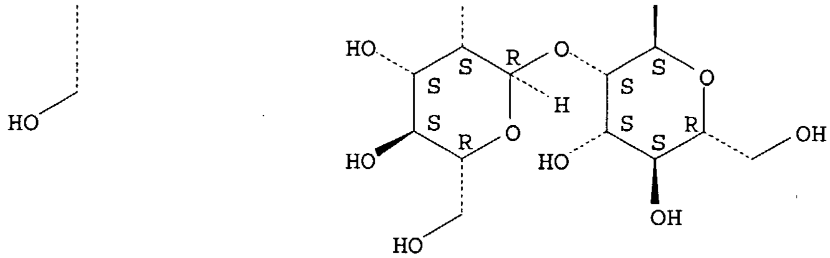

L91 ANSWER 3 OF 46 HCAPLUS
AN 1997:22006 HCAPLUS
DN 126:142395
ED Entered STN: 15 Jan 1997
TI Gender-specific glycosylation of human glycodelin affects its contraceptive activity
AU Morris, Howard R.; Dell, Anne; Easton, Richard L.; Panico, Maria; Koistinen, Hannu; Koistinen, Riitta; Oehninger, Sergio; Patankar, Manish S.; Seppala, Markku; Clark, Gary F.
CS Dep. Biochem., Imperial Coll., London, SW7 2AY, UK
SO Journal of Biological Chemistry (**1996**), 271(50), 32159-32167
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
CC 13-3 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB We have recently demonstrated that a human amniotic fluid-derived glycoprotein, glycodelin-A (GdA; previously known as PP14 or PAEP), potently inhibits gamete binding in an established sperm-egg binding system and expresses immunosuppressive activities directed against a variety of different immune cell types. GdA has **high mannose**-, hybrid-, and complex-type biantennary oligosaccharides including structures with fucosylated or sialylated N,N'-diacetyllactosediamine (GalNAcβ1-4GlcNAc) sequences, which are rare in other human glycoproteins. We now report the characterization of glycodelin-S (GdS). This is a human seminal plasma glycoprotein that is immunol. indistinguishable from GdA, but unlike the latter, does not inhibit human sperm-zona pellucida binding under hemizona assay conditions. Anal. of the N-glycans of GdS by mass spectrometry revealed that all glycoforms of GdS are different from those of GdA. GdS glycans are unusually fucose-rich, and the major complex-type structures are biantennary glycans with Lewisx (Galβ1-4(Fucα1-3)GlcNA) and Lewisy (Fucaα1-2Galβ1-4(Fucα1-3)GlcNAc) antennae. It is probable that these highly fucosylated epitopes contribute to the immunosuppressive activity of human seminal plasma and to the low immunogenicity of sperm. This study provides the first evidence for gender-specific glycosylation that may serve to regulate key processes involved in human reproduction
ST human glycodelin S N glycan structure; seminal plasma GdS carbohydrate structure contraceptive
IT Oligosaccharides, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(N-linked; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT Sperm
(binding to zona pellucida, as measure of glycodelin contraceptive activity; gender-specific glycosylation of human glycodelin affects its

contraceptive (sperm-zona pellucida binding) activity)
IT Glycosylation
Immunosuppression
Reproduction, animal
Sex
(gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT Glycoproteins, specific or class
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(glycodelin S; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT Protein motifs
(glycosylation site; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT Semen
(plasma, glycodelin S (GdS) from; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT Egg
(zona pellucida, binding to sperm, as measure of glycodelin contraceptive activity; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT **66091-47-2 78392-29-7 78392-30-0**
83178-05-6
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(as N-glycan linked to glycodelin S **asparagine** 28; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT 78334-44-8 78350-89-7 78392-81-1 186546-73-6 186546-74-7
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(as N-glycan linked to glycodelin S **asparagine** 63; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT **70-47-3**, L-**Asparagine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(in glycodelin S, oligosaccharides attached to; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
IT 2438-80-4, Fucose 3458-28-4, Mannose
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(presence in glycodelin S oligosaccharides; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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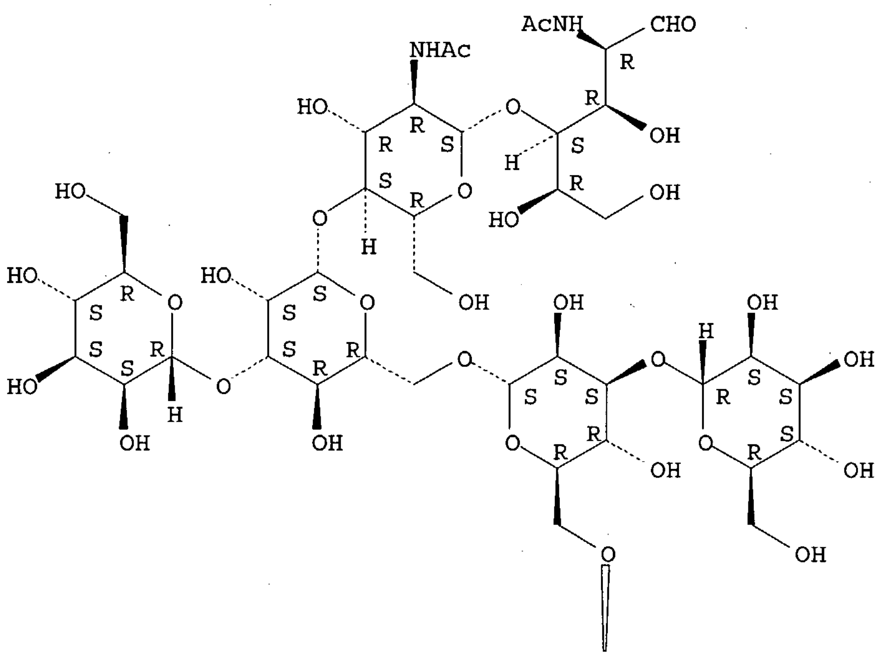
IT **66091-47-2 78392-29-7 78392-30-0**
83178-05-6
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(as N-glycan linked to glycodelin S **asparagine** 28; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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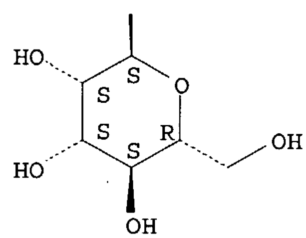


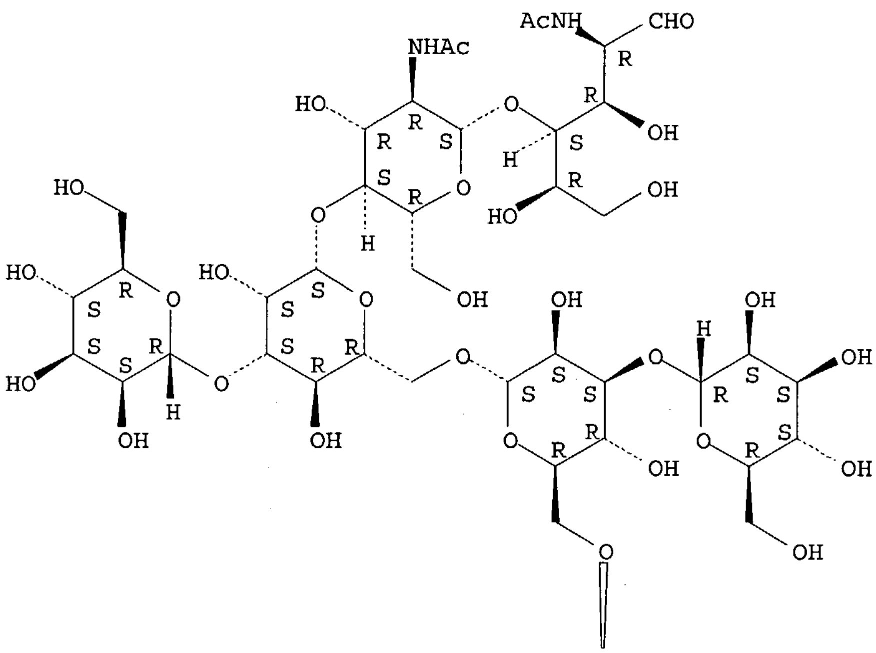
RN 78392-29-7 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, mono-α-D-mannopyranoside (9CI) (CA INDEX NAME)

CM 1

CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



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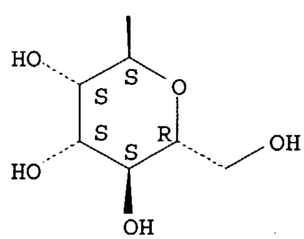
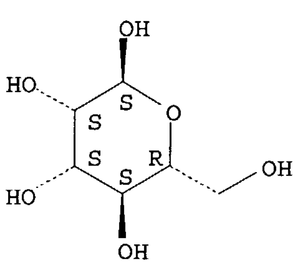


CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



RN 78392-30-0 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-

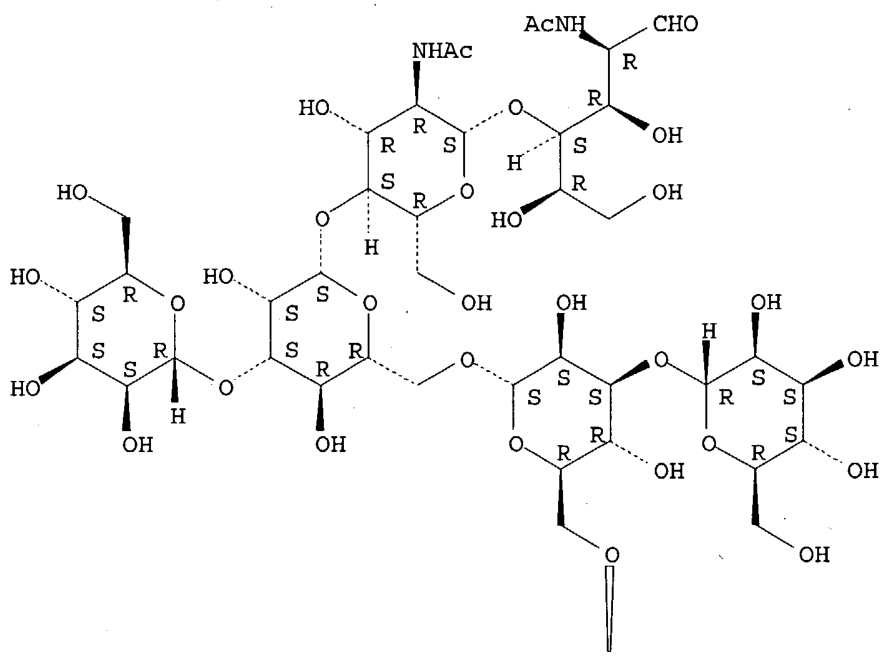
mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-
α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-
(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-
(1→4)-2-(acetylamino)-2-deoxy-, di-α-D-mannopyranoside (9CI)
(CA INDEX NAME)

CM 1

CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



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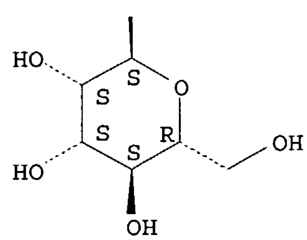
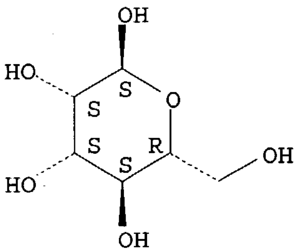


CM 2

CRN 7296-15-3
CMF C6 H12 O6

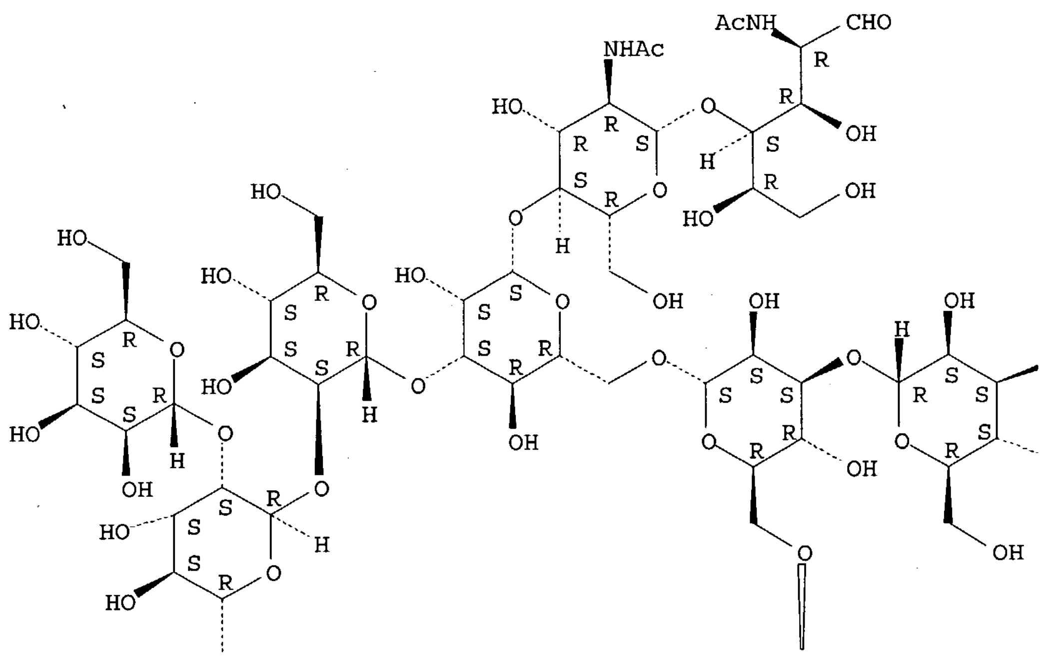
Absolute stereochemistry.



RN 83178-05-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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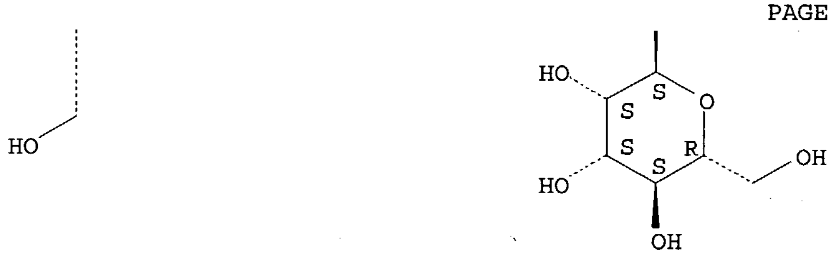
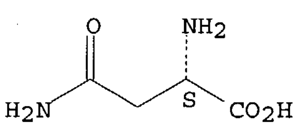


IT 70-47-3, L-**Asparagine**, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(in glycodelin S, oligosaccharides attached to; gender-specific glycosylation of human glycodelin affects its contraceptive (sperm-zona pellucida binding) activity)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L91 ANSWER 4 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:880357 HCAPLUS
DN 124:139156
ED Entered STN: 26 Oct 1995
TI Structural analysis of the oligosaccharides derived from glycodelin, a human glycoprotein with potent immunosuppressive and contraceptive activities
AU Dell, Anne; Morris, Howard R.; Easton, Richard L.; Panico, Maria; Patankar, Manish; Oehninger, Sergio; Koistinen, Riitta; Koistinen, Hannu; Seppala, Markku; Clark, Gary F.
CS Dep. Biochem., Imperial Coll. Sci. Technol. Med., London, SW7 2AY, UK

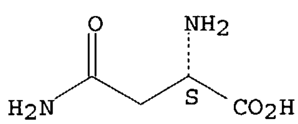
SO Journal of Biological Chemistry (**1995**), 270(41), 24116-26
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Bio logy
DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 13, 15
AB Glycodelin, also known as placental protein 14 (PP14) or progesterone-associated endometrial protein (PAEP), is a human glycoprotein with potent immunosuppressive and contraceptive activities. In this paper we report the first characterization of glycodelin-derived oligosaccharides. Using strategies based upon fast atom bombardment and electrospray mass spectrometry we have established that glycodelin is glycosylated at **Asn**-28 and **Asn**-63. The **Asn** -28 site carries **high mannose**, hybrid and complex-type structures, whereas the second site is exclusively occupied by complex-type glycans. The major non-reducing epitopes in the complex-type glycans are: Galβ1→4GlcNAc (lacNAc), GalNAcβ1-4GlcNAc (lacdiNAc), NeuAcα2-6Galβ1-4GlcNAc (sialylated lacNAc), NeuAcα2-6GalNAcβ1-4GlcNAc (sialylated lacdiNAc), Galβ1-4(Fucα1-3)GlcNAc (Lewisx), and GalNAcβ1-4(Fucα1-3)GlcNAc (lacdiNAc analog of Lewisx). It is possible that the oligosaccharides bearing sialylated lacNAc or lacdiNAc antennae may manifest immunosuppressive effects by specifically blocking adhesive and activation-related events mediated by CD22, the human B cell associated receptor. Oligosaccharides with fucosylated lacdiNAc antennae have previously been shown to potently block selectin-mediated adhesions and may perform the same function in glycodelin. The potent inhibitory effect of glycodelin on initial human sperm-zona pellucida binding is consistent with our previous suggestion that this cell adhesion event requires a selectin-like adhesion process. This result also raises the possibility that a convergence between immune and gamete recognition processes may have occurred in the types of carbohydrate ligands recognized in the human.
ST glycodelin oligosaccharide structure immunosuppression contraceptive
IT Glycosidation
(sites; structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)
IT Contraceptives
Immunosuppressants
(structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)
IT Oligosaccharides
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)
IT Globulins, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(α2-PEG (α2-pregnancy-associated endometrial globulin), structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)
IT **70-47-3**, **Asparagine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(glycosylation site residues 28 and 63; structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)

IT **66091-47-2** 79295-70-8 82659-92-5 83800-28-6 84825-26-3
118325-36-3 119534-74-6 146554-24-7 158167-31-8 169624-29-7
169624-30-0 169624-31-1 169624-32-2 169624-33-3 169624-34-4
173397-15-4 173397-16-5 173398-74-8 173398-75-9 173398-76-0
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)

IT **70-47-3, Asparagine**, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(glycosylation site residues 28 and 63; structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)

RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

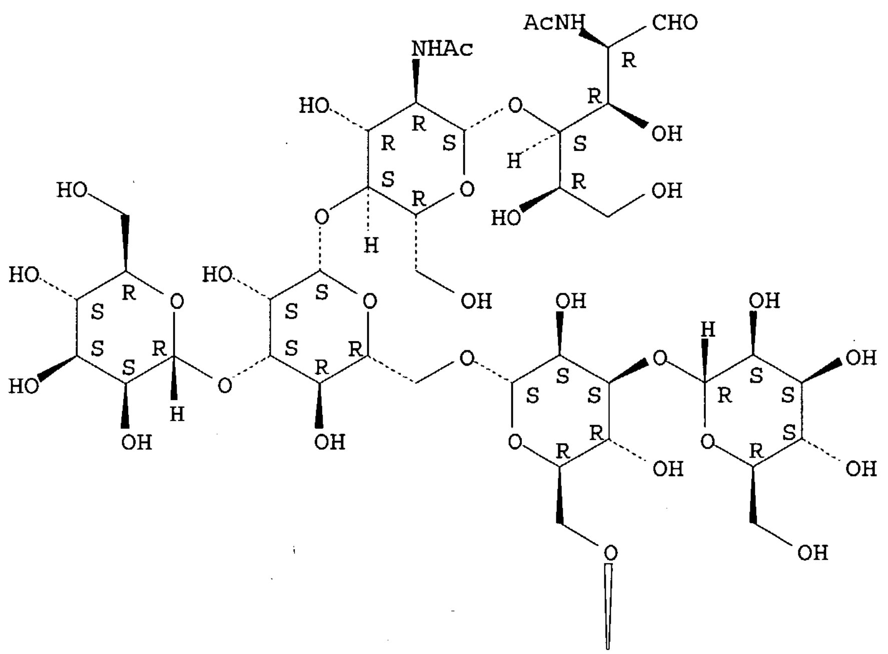


IT **66091-47-2**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(structural anal. of the oligosaccharides derived from glycodelin (PP14), a human glycoprotein with potent immunosuppressive and contraceptive activities)

RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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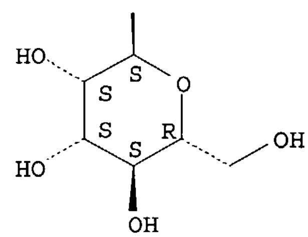


L91 ANSWER 5 OF 46 HCAPLUS
AN 1995:486453 HCAPLUS
DN 123:106458
ED Entered STN: 13 Apr 1995
TI The **asparagine**-linked carbohydrate of honeybee venom hyaluronidase
AU Kubelka, Viktoria; Altmann, Friedrich; Maerz, Leopold
CS Institute fuer Chemie, Universitaet fuer Bodenkultur Wien, Vienna, A-1180, Austria
SO Glycoconjugate Journal (**1995**), 12(1), 77-83
CODEN: GLJOEW; ISSN: 0282-0080
PB Chapman & Hall
DT Journal
LA English
CC 7-5 (Enzymes)
AB Hyaluronidase from honeybee venom was purified by gel permeation and cation-exchange chromatog. Its **asparagine**-linked carbohydrate chains were released from tryptic glycopeptides with N-glycosidase A and reductively aminated with 2-aminopyridine. Separation of the fluorescent derivs. by size-fractionation and reverse-phase HPLC afforded 18 fractions

which were analyzed by 2-dimensional HPLC mapping combined with exoglycosidase digestions. The bulk of the N-linked glycans of hyaluronidase consisted of small oligosaccharides (Man1-3GlcNAc2), most of which were either α1,3-monofucosylated or α1,3-(α1,6)-difucosylated at the innermost GlcNAc residue. **High-mannose** type structures constituted the minor fractions, together making up .apprx.5% of the oligosaccharide pool from hyaluronidase. Four fractions, making up 8% of the N-linked glycans, contained the terminal trisaccharide GalNAcβ1-4[Fucα1-3]GlcNAcβ1- in β1,2-linkage to the core α1,3-mannosyl residue. No evidence for the presence of O-glycans or sialic acids could be found.

ST hyaluronidase oligosaccharide structure honeybee venom

IT Oligosaccharides
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

IT Venoms
(of honeybee; isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

IT Honeybee
(venom; isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

IT 61652-90-2P **66091-47-2P** **70858-45-6P** **71246-55-4P** **88210-72-4P** 95041-21-7P 110387-51-4P 119911-41-0P 119911-44-3P 119911-45-4P 147237-70-5P 150175-56-7P 150175-57-8P 150175-58-9P 150205-57-5P 165609-85-8P **166241-65-2P**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

IT 9001-54-1, Hyaluronidase
RL: PRP (Properties)
(isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

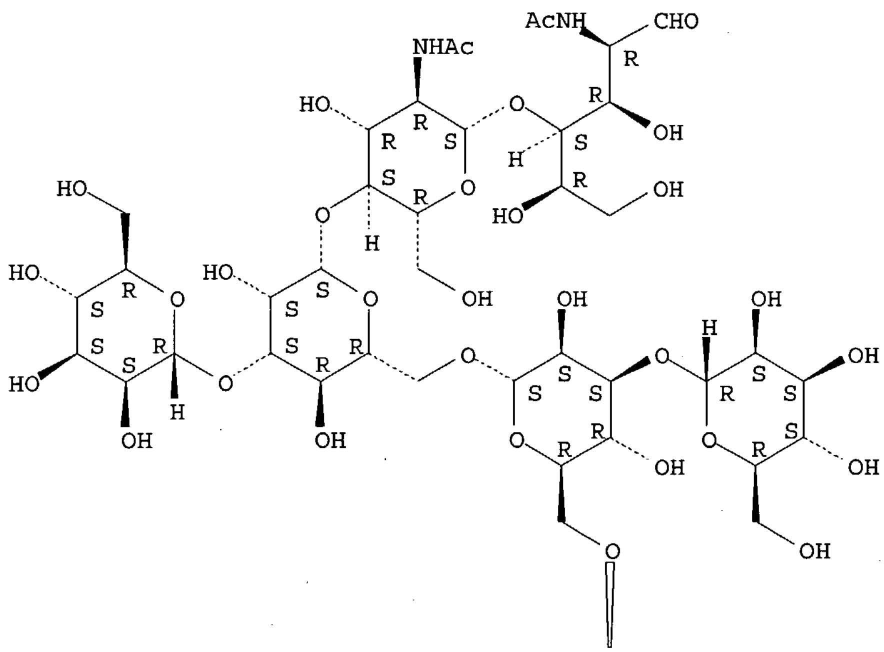
IT **66091-47-2P** **70858-45-6P** **71246-55-4P** **88210-72-4P** **166241-65-2P**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(isolation and structure of oligosaccharides of hyaluronidase from honeybee venom)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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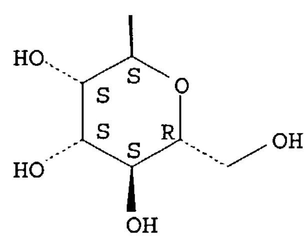
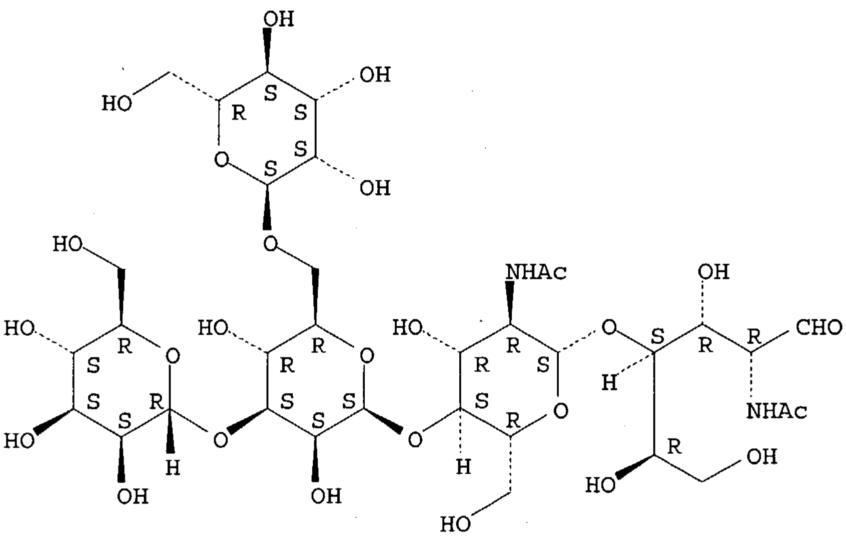


RN 70858-45-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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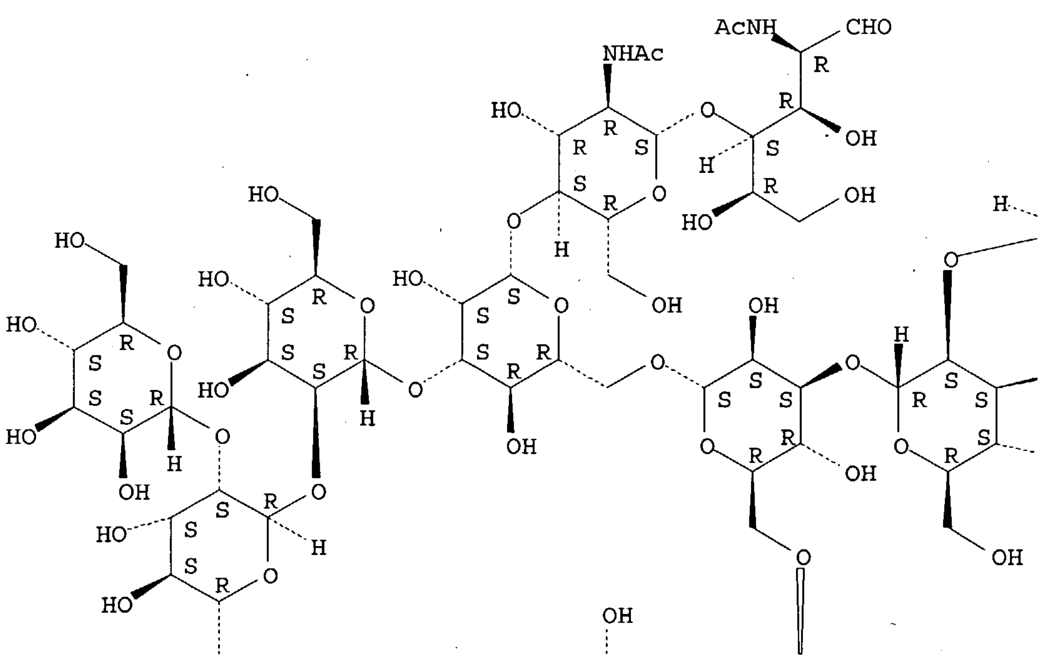
Absolute stereochemistry.

PAGE 1-A



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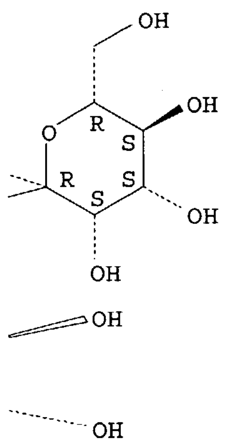

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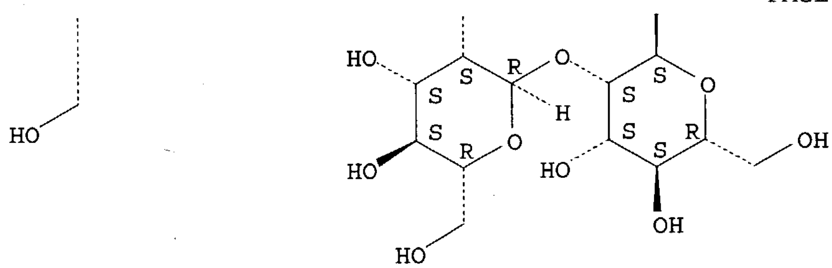

RN 88210-72-4 HCAPLUS
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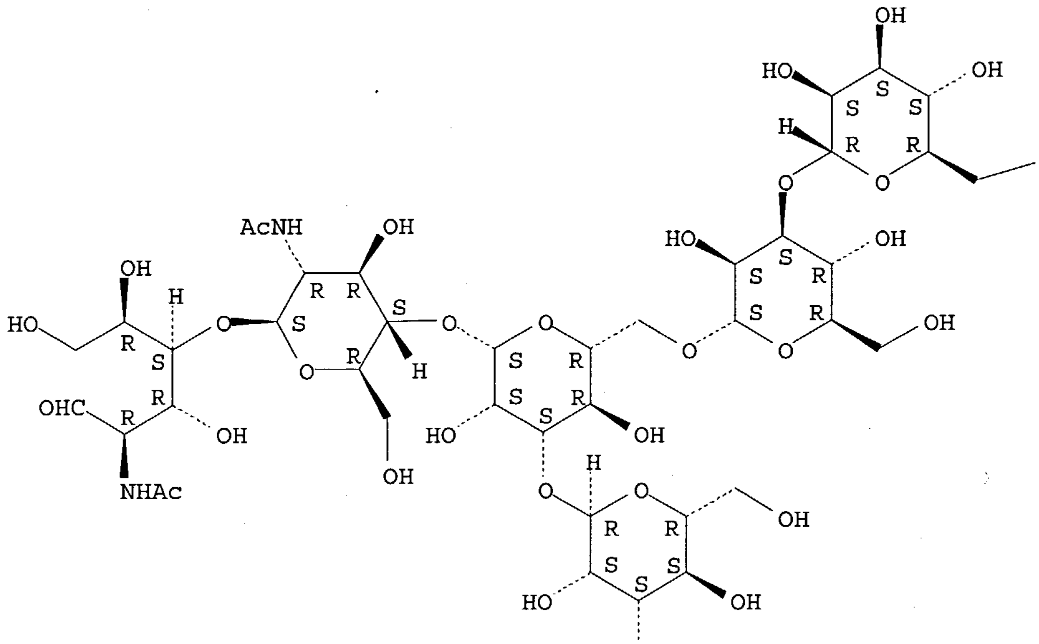
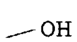
Absolute stereochemistry.

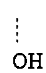
PAGE 1-A



PAGE 1-B



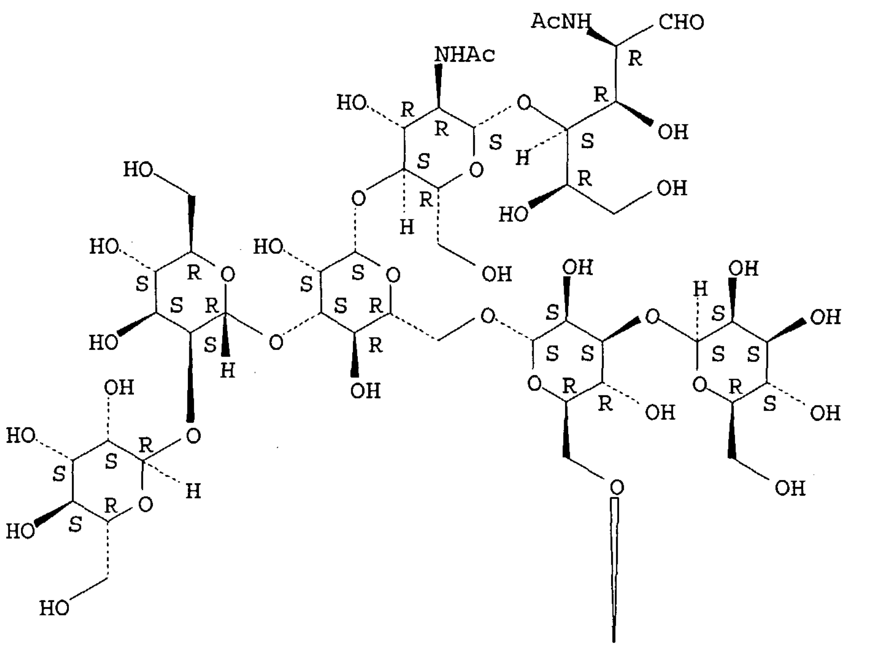
PAGE 2-A



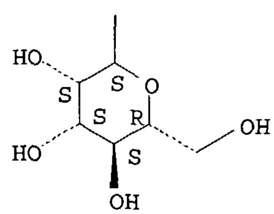
RN 166241-65-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→6)-O-[β-D-mannopyranosyl-(1→3)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



L91 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:78555 HCAPLUS
DN 122:31800
ED Entered STN: 08 Nov 1994
TI Molecular dynamics simulations of **high-mannose** oligosaccharides
AU Balaji, Petety; Qasba, Pradman K.; Rao, V. S. R.
CS Laboratory of Mathematical Biology, National Cancer Institute, Bethesda, MD, 20892, USA
SO Glycobiology (**1994**), 4(4), 497-515
CODEN: GLYCE3; ISSN: 0959-6658
DT Journal
LA English
CC 33-7 (Carbohydrates)
Section cross-reference(s): 22
AB Conformations of several **high-mannose**-type oligosaccharides that are generated during the biosynthetic degradation of Man9GlcAc2 to Man5GlcNAc2 have been studied by mol. dynamics (MD). The conformations of the two α1,3- and the two α1,6-linkages in each oligomannose were different, suggesting that deriving oligosaccharide conformations based on the conformational preferences of the constituent

disaccharide fragments will not always yield correct results. Unlike other oligomannoses, Man9GlcNAc2 appears to take more than one distinct conformation around the core α1,6-linkage. These various conformations may play an important role in determining the processing pathways.
Using the data on the preferred conformations of these oligomannoses and the available exptl. results, possible pathways for processing Mn9GlcNAc2 to Man5GlcNAc2 by α1,2-linkage-specific mannosidases have been proposed. Conformational anal. of Man5GlcNAc2 indicates that the addition of β1,2-GlcNAc to the α1,3-linked core mannose, besides serving as a prerequisite for mannosidase II action as suggested earlier, may also prevent the removal of α1,3-mannose. The MD simulations also suggest that the processing of the precursor oligosaccharide during **Asn**-linked complex and hybrid glycan biosynthesis proceeds in a w3ell-defined pathway involving more than one α1,2-linkage-specific mannosidase. Knowledge of the conformation of the processing intermediates obtained from the present study can be used to design highly specific substrate analogs to inhibit a particular mannosidase, thereby blocking one processing pathway without interfering with the others.

ST mol dynamics simulation mannose oligosaccharide; conformation mannose oligosaccharide

IT Conformation and Conformers
(mol. dynamics simulations of **high-mannose** oligosaccharides)

IT Oligosaccharides
RL: PRP (Properties)
(mol. dynamics simulations of **high-mannose** oligosaccharides)

IT Simulation and Modeling, physicochemical
(mol. dynamics, mol. dynamics simulations of **high-mannose** oligosaccharides)

IT **123062-75-9 123062-76-0 123062-77-1 153604-56-9 153604-57-0 159194-01-1 159530-20-8 159530-21-9 159530-22-0 159530-23-1 159627-19-7 159627-20-0**
RL: PRP (Properties)
(mol. dynamics simulations of **high-mannose** oligosaccharides)

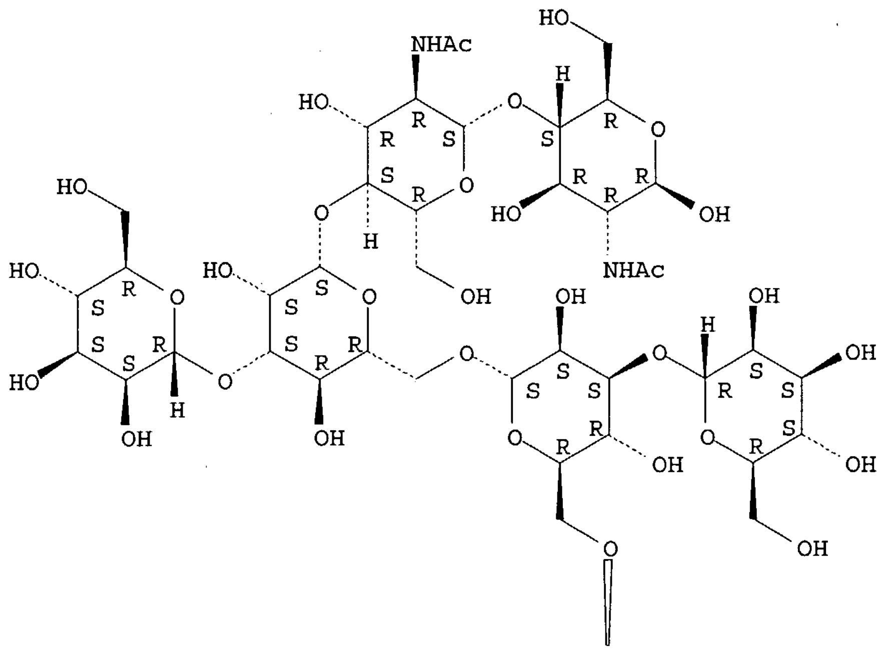
IT **123062-75-9 123062-76-0 123062-77-1 153604-56-9 153604-57-0 159194-01-1 159530-20-8 159530-21-9 159530-22-0 159530-23-1 159627-19-7 159627-20-0**
RL: PRP (Properties)
(mol. dynamics simulations of **high-mannose** oligosaccharides)

RN 123062-75-9 HCAPLUS

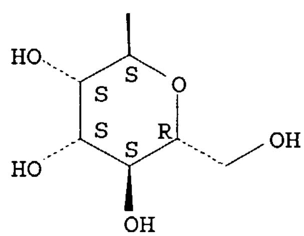
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

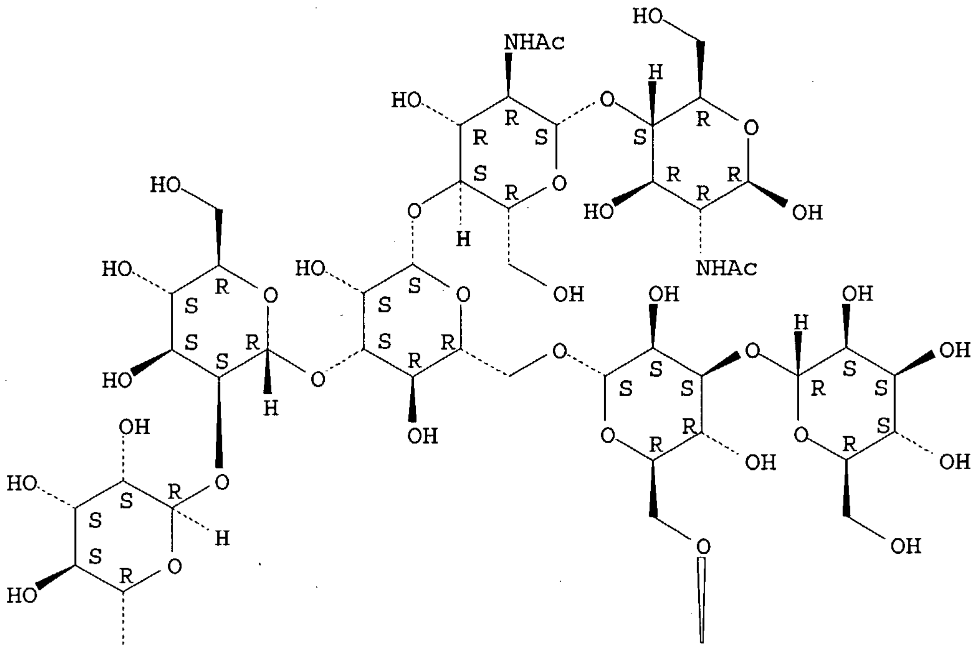


RN 123062-76-0 HCAPLUS

CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



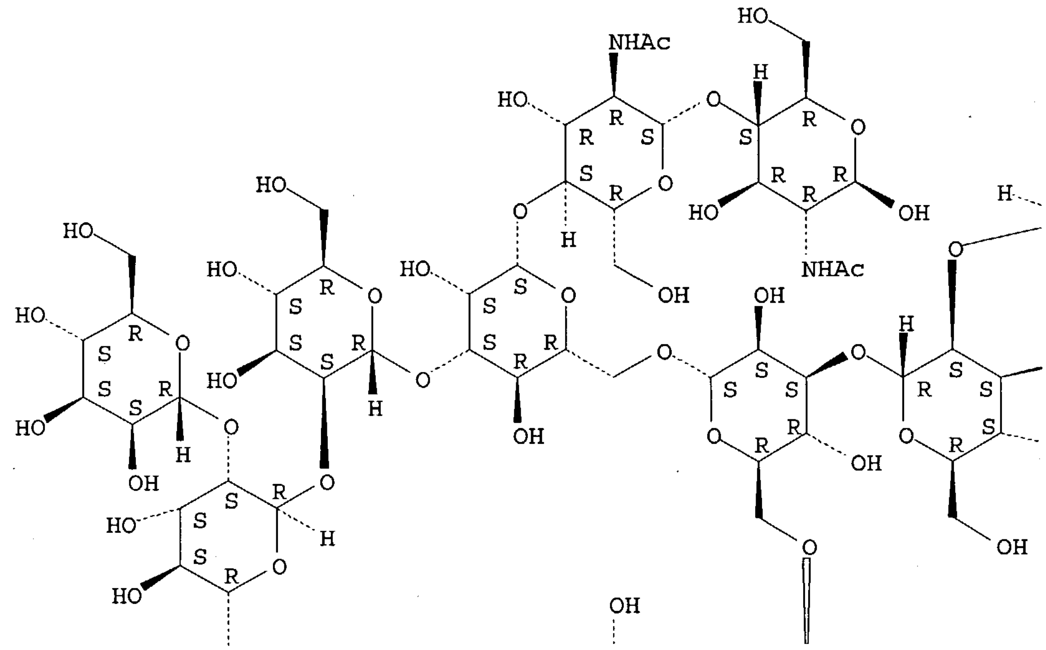
PAGE 2-A

RN 123062-77-1 HCAPLUS

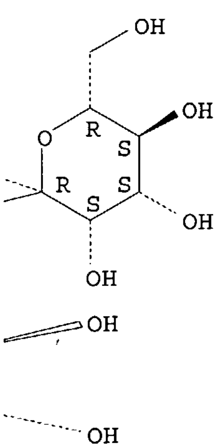
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

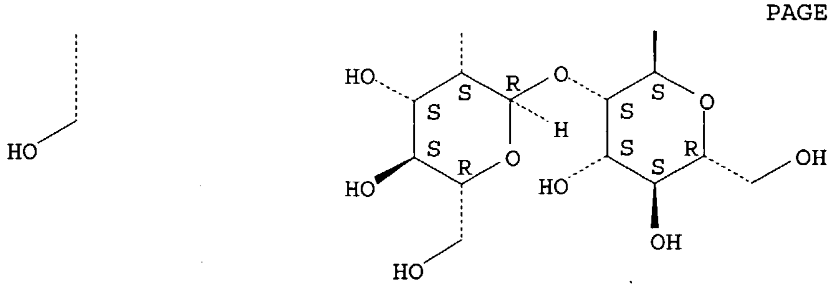
PAGE 1-A



PAGE 1-B



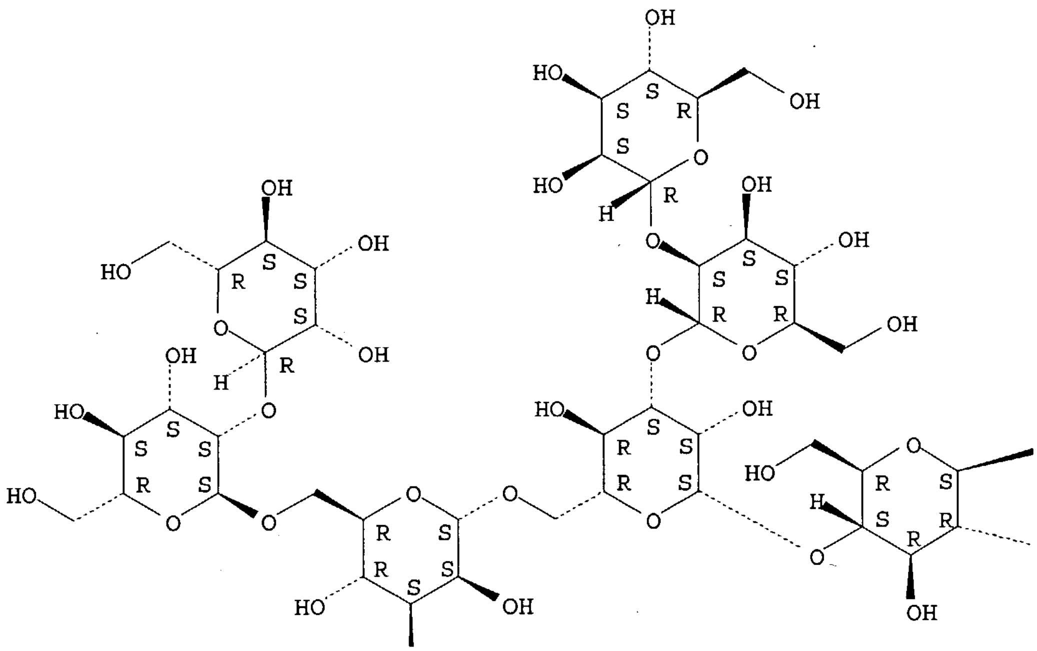
PAGE 2-A



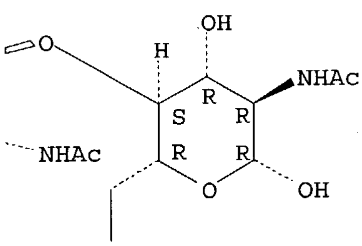
RN 153604-56-9 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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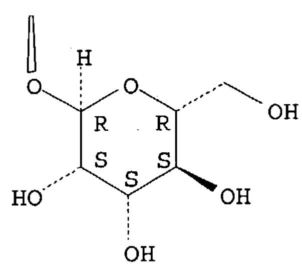
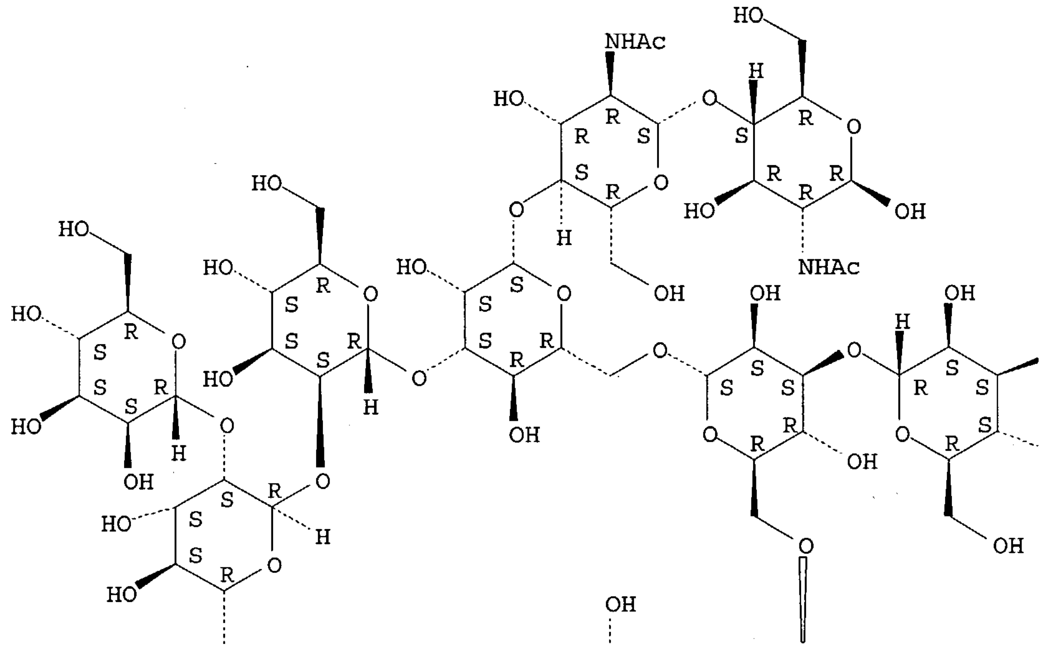


PAGE 2-B

RN 153604-57-0 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

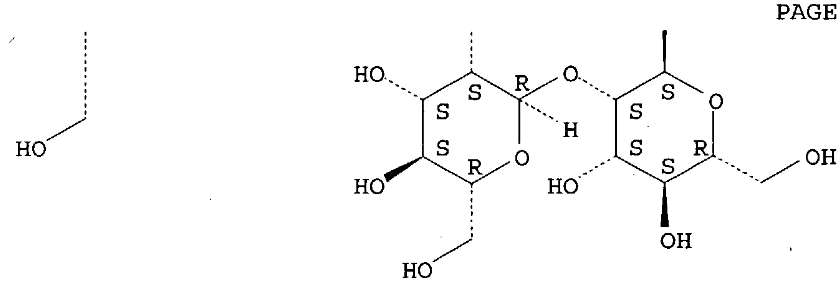
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

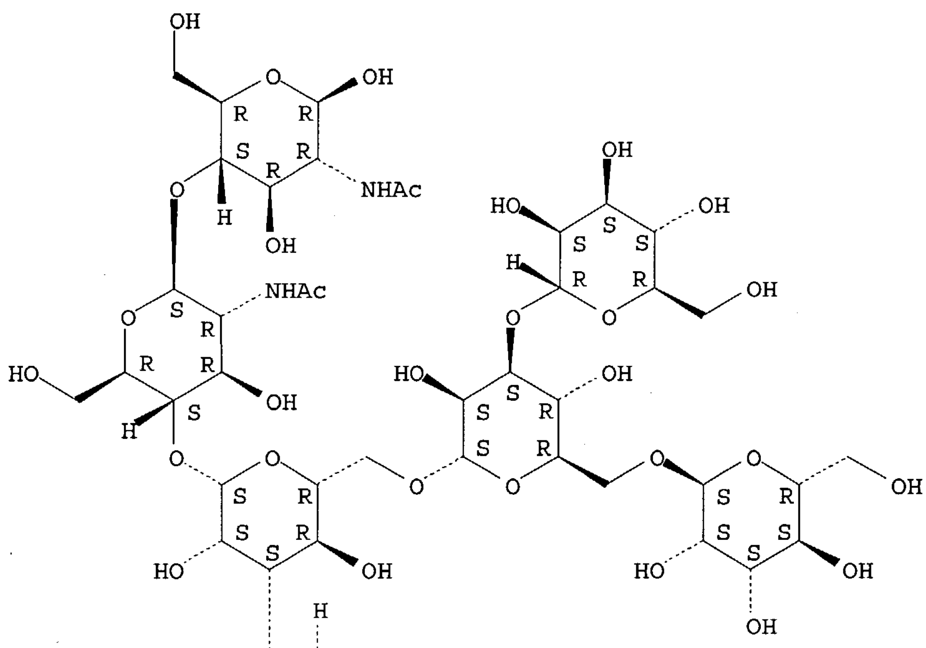
PAGE 2-A



RN 159194-01-1 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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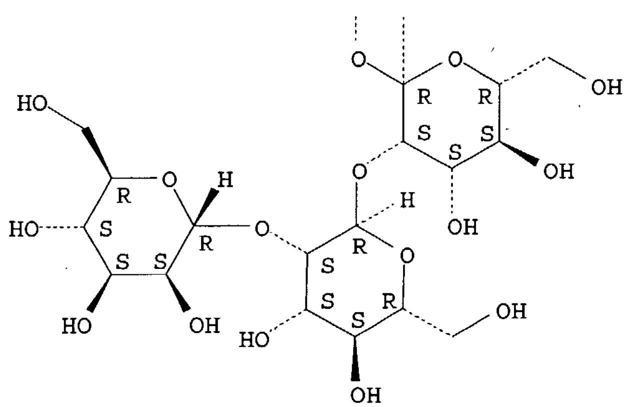
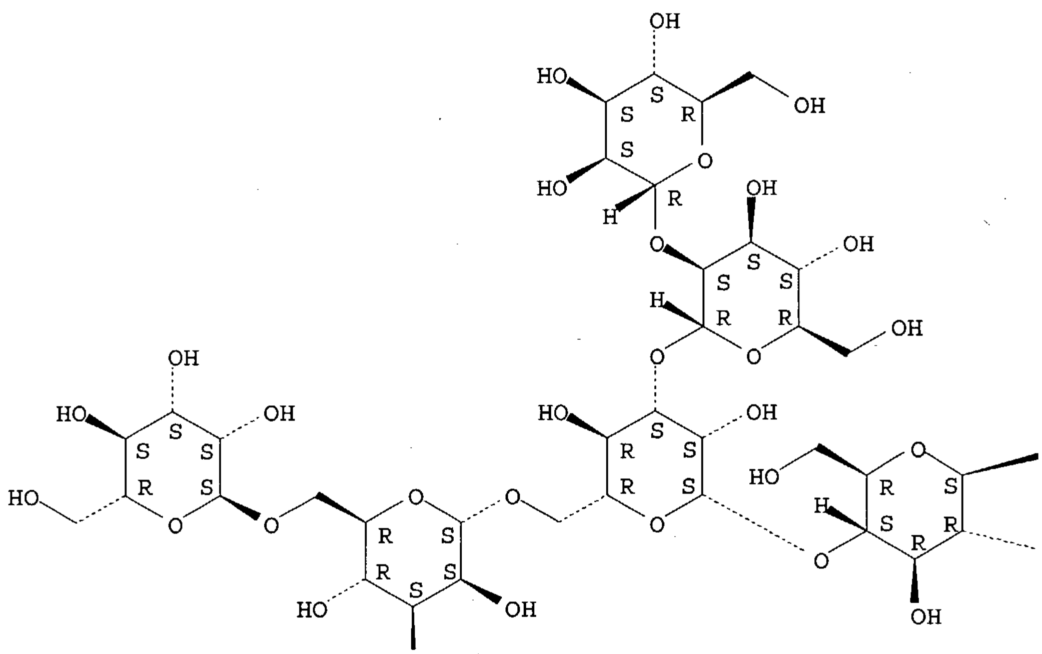


RN 159530-20-8 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-

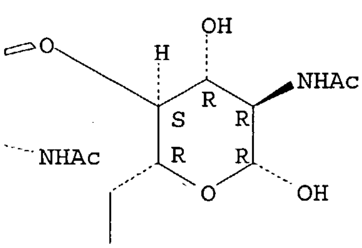
mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-
β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-
glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

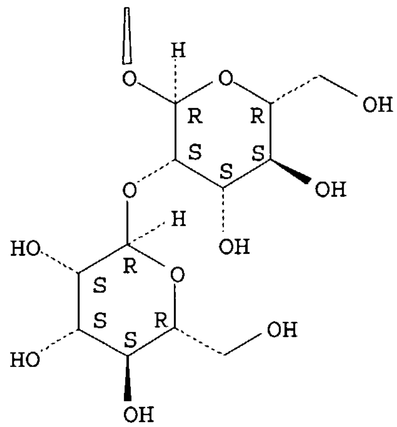
PAGE 1-A



PAGE 1-B



PAGE 2-A



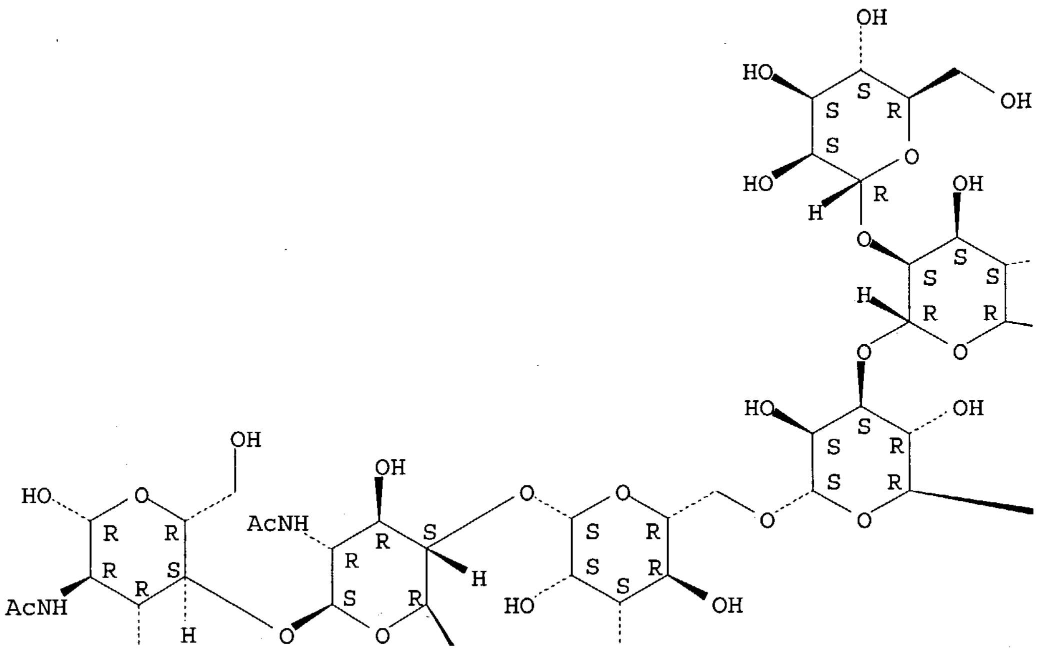
PAGE 2-B

RN 159530-21-9 HCAPLUS

CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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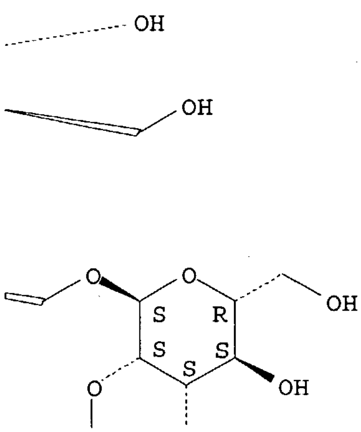

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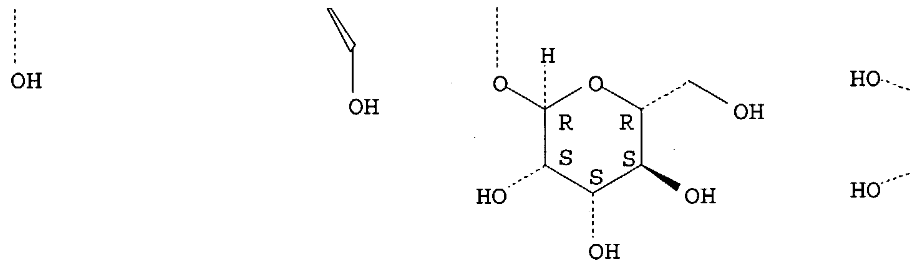

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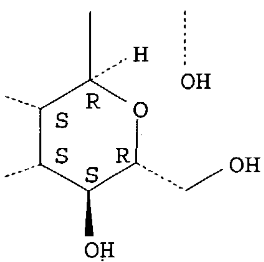

RN 159530-22-0 HCAPLUS
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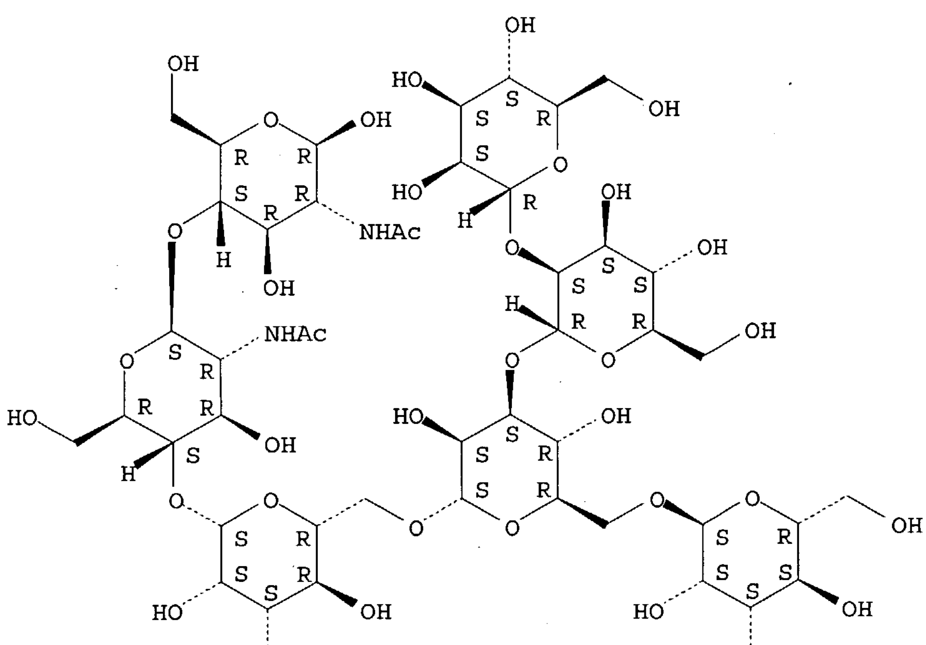
Absolute stereochemistry.

PAGE 1-A



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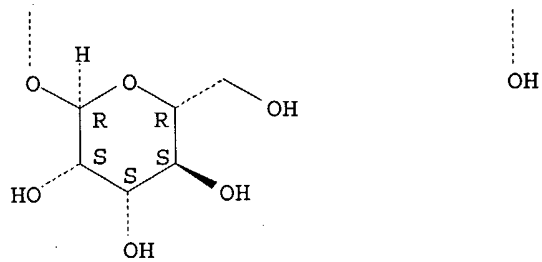
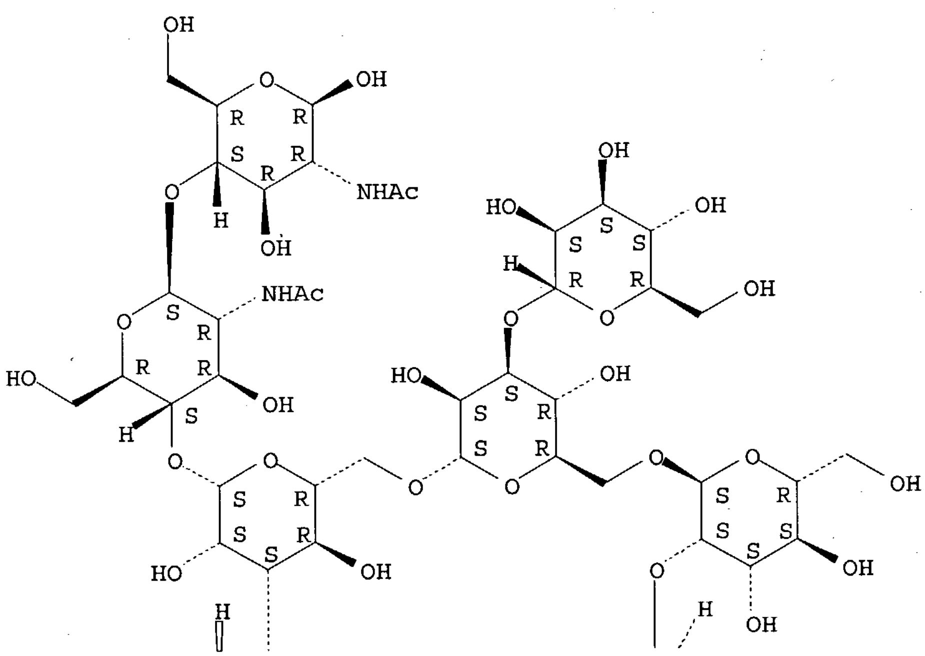


RN 159530-23-1 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

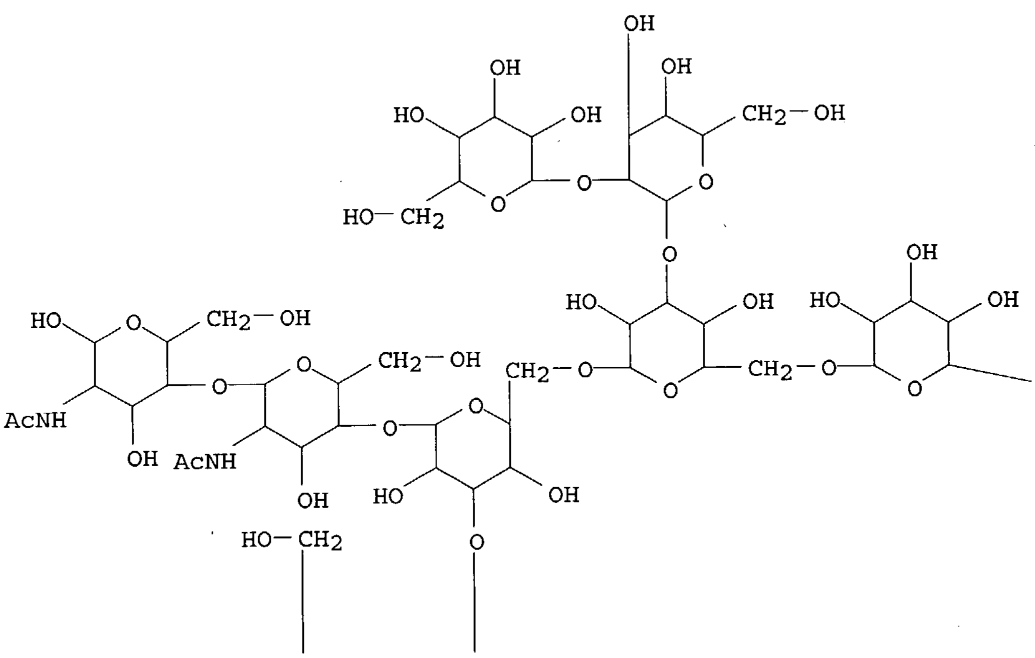
PAGE 1-A



PAGE 2-A

RN 159627-19-7 HCAPLUS
CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-(2-acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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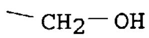

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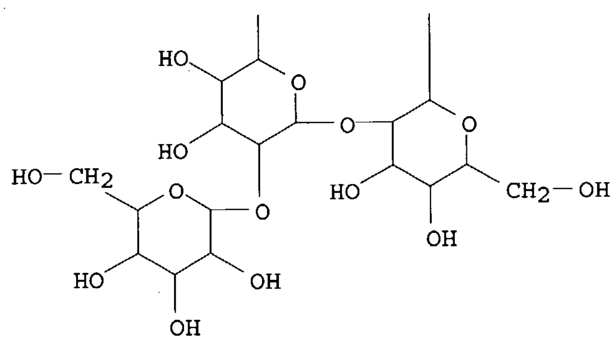
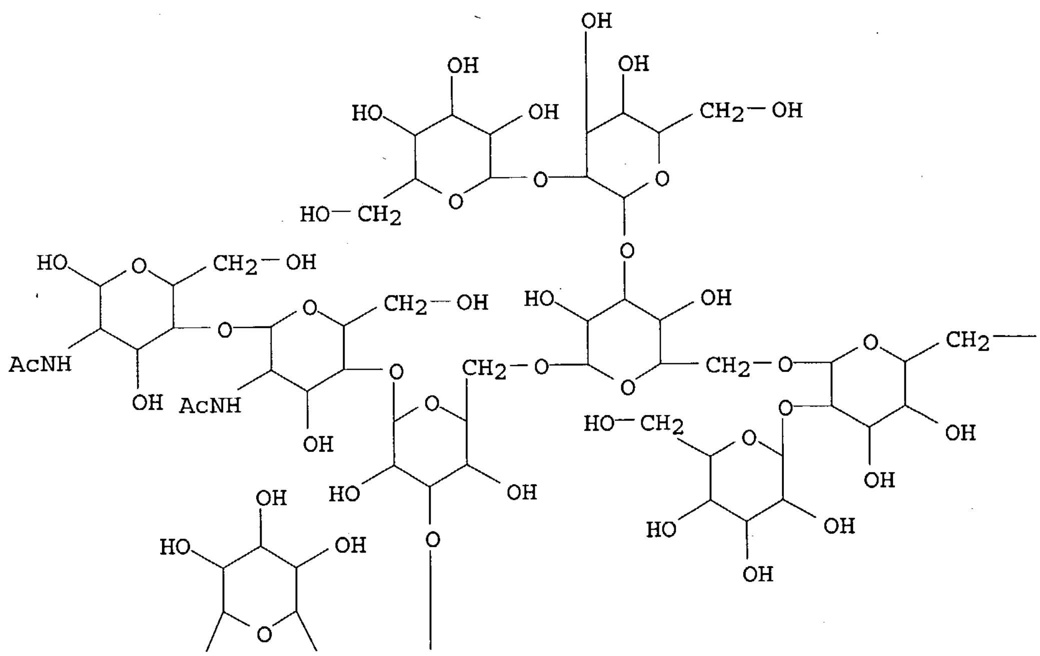


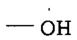
RN 159627-20-0 HCAPLUS

CN β-D-Glucopyranose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

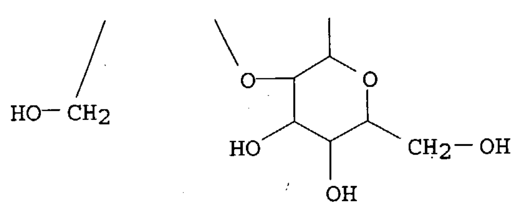
PAGE 1-A



PAGE 1-B



PAGE 2-A



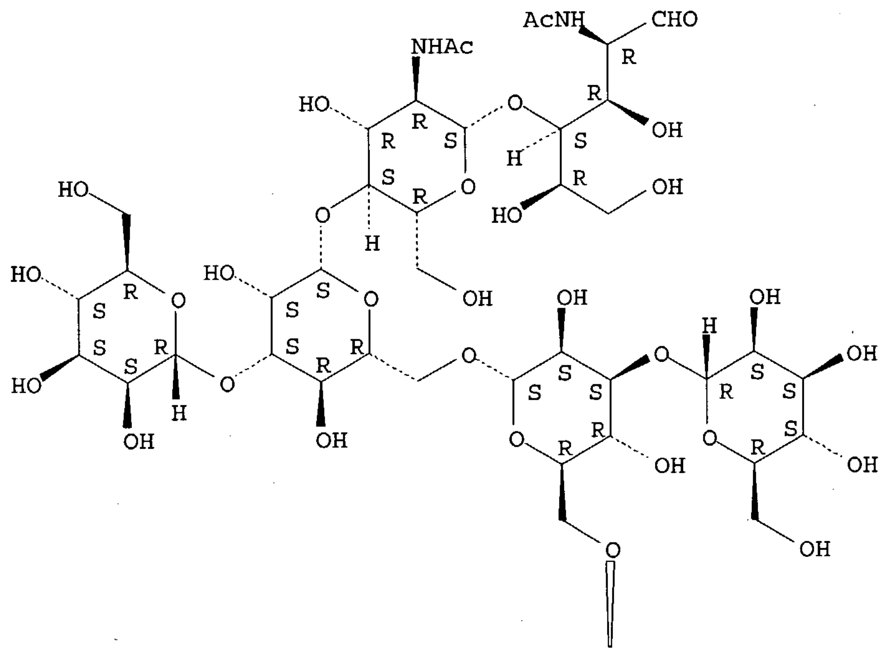
L91 ANSWER 7 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:2632 HCAPLUS
DN 122:3977
ED Entered STN: 08 Nov 1994

TI Characterization of the oligosaccharide structures on a recombinant tissue-type plasminogen activator analog synthesized in Chinese hamster ovary cells
AU Aeed, P. A.; Guido, D. M.; Mathews, W. R.; Leone, J. W.; Elhammer, A. P.
CS Upjohn Co., Kalamazoo, MI, 49001, USA
SO Fibrinolysis (**1994**), 8(1), 31-41
CODEN: FBRIE7; ISSN: 0268-9499
DT Journal
LA English
CC 6-4 (General Biochemistry)
AB The **asparagine**-linked oligosaccharides on a recombinant tissue-type plasminogen activator analog, lacking the epidermal growth factor-like and kringle 1 domains (FK2P), synthesized by Chinese hamster ovary cells, have been characterized. In vivo [3H]mannose labeled glycopeptides were extracted from SDS-PAGE gels of antibody precipitated FK2P and the major oligosaccharide structures were characterized by serial lectin affinity chromatog., size-exclusion chromatog. in combination with exoglycosidase digestions, ion exchange chromatog., HPLC and methylation anal. 44% Of the oligosaccharides on the mol. are triantennary (35% 2,4-branched, 9% 2,6-branched), 34% are biantennary and 20% are tetraantennary complex type, all of which are core-fucosylated. Approx. 1% of the structures are **high mannose** type, in the form of Man6GlcNAc2, Man7GlcNAc2 and Man8GlcNac2. The remaining 1% of the structures appear to be hybrid type. The complex structures contain varying nos. of sialic acid residues ranging from non- to fully sialylated. No N-acetylgalactosamine was detected in acid hydrolyzates of FK2P, consistent with a lack of serine/threonine-linked oligosaccharides. Sequence anal. of tryptic peptides prepared from purified FK2P revealed that only one of the two consensus sites for N-linked glycosylation on the mol. is utilized.
ST tissue type plasminogen activator oligosaccharide structure
IT Carbohydrates and Sugars, biological studies
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(of recombinant tissue-type plasminogen activator analog expressed in Chinese hamster ovary cells)
IT Oligosaccharides
RL: PRP (Properties)
(N-linked, of recombinant tissue-type plasminogen activator analog expressed in Chinese hamster ovary cells, structure of)
IT **66091-47-2D**, mannosylated 78392-81-1D, sialylated 83412-55-9D, sialylated 84813-89-8D, sialylated 107688-07-3D, sialylated 112822-58-9D, sialylated
RL: BIOL (Biological study)
(of recombinant tissue-type plasminogen activator analog expressed in Chinese hamster ovary cells)
IT **70-47-3**, **Asparagine**, biological studies
RL: BIOL (Biological study)
(of recombinant tissue-type plasminogen activator analog position 320, expressed in Chinese hamster ovary cells, glycosylation of)
IT 139639-23-9D, Tissue-type plasminogen activator, analog
RL: BIOL (Biological study)
(oligosaccharide of recombinant, expressed in Chinese hamster ovary cells, structure and attachment site of)
IT **66091-47-2D**, mannosylated
RL: BIOL (Biological study)
(of recombinant tissue-type plasminogen activator analog expressed in Chinese hamster ovary cells)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-

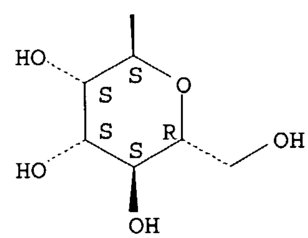
(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-
(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

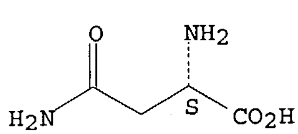


PAGE 2-A



IT **70-47-3, Asparagine,** biological studies
RL: BIOL (Biological study)
(of recombinant tissue-type plasminogen activator analog position 320, expressed in Chinese hamster ovary cells, glycosylation of)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L91 ANSWER 8 OF 46 HCAPLUS

AN 1994:455685 HCAPLUS
DN 121:55685
ED Entered STN: 06 Aug 1994
TI Interaction of Immobilized Recombinant Mouse C-Type Macrophage Lectin with Glycopeptides and Oligosaccharides
AU Yamamoto, Kazuo; Ishida, Chizu; Shinohara, Yasuro; Hasegawa, Yukio; Konami, Yukiko; Osawa, Toshiaki; Irimura, Tatsuro
CS Faculty of Pharmaceutical Sciences, University of Tokyo, Tokyo, 113, Japan
SO Biochemistry (**1994**), 33(26), 8159-66
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 15-6 (Immunochemistry)
AB Inflammatory and tumoricidal macrophages express galactose- and N-acetylgalactosamine-specific Ca2+-dependent lectins on their surfaces. This lectin is a family member of membrane-bound C-type animal lectins and consists of 304 amino acid residues (mol. weight 34,595). Expression vectors containing a nucleotide sequence corresponding to the carbohydrate-binding domain of mouse macrophage lectin cDNA have been prepared The carbohydrate-binding specificity of the recombinant macrophage lectin expressed in Escherichia coli was investigated by comparing elution profiles of various glycopeptides having defined carbohydrate structures on immobilized lectins. When elution profiles of **high mannose**-type and complex-type **Asn**-linked carbohydrate chains were compared, the degree of retardation from immobilized macrophage lectin column was in the order tetraantennary complex-type with terminal galactosyl residues > triantennary complex-type with terminal galactosyl residues > biantennary complex-type with terminal galactosyl residues > **high mannose**-type glycopeptides. N-Terminal octapeptides from human glycophorin A that bore three NeuAcα2-3Galβ1-3(NeuAcα2-6)GalNAc serine/threonine-linked tetrasaccharide chains and their sequentially deglycosylated derivs. were also applied to this column. Glycopeptides carrying three constitutive GalNAc-Ser/Thr(Tn-antigen) had the strongest affinity, whereas those with fully sialylated carbohydrate tetrasaccharide chains showed weak interaction. The association kinetics of **Asn**-linked glycopeptides from bovine fetuin to recombinant macrophage lectin was determined by surface plasmon resonance spectroscopy. The results indicated a kassoc value of 1.63+104 M-1 s-1. The calculated value for Ka was 6.20+107 M.
ST macrophage lectin glycopeptide oligosaccharide
IT Glycopeptides
Oligosaccharides
RL: BIOL (Biological study)
(C-type lectins of macrophage interaction with)
IT Macrophage
(C-type lectins of, glycopeptides and oligosaccharides interaction with)
IT Agglutinins and Lectins
RL: BIOL (Biological study)
(C-type, of macrophage, glycopeptides and oligosaccharides interaction with)
IT Fetuins
RL: BIOL (Biological study)
(asialo-, conjugates, with glycopeptides, C-type lectins of macrophage interaction with)
IT 71496-53-2 78392-81-1 82867-73-0 82867-74-1 107691-47-4 110402-16-9 111945-05-2 156097-18-6 156097-19-7 **156097-20-0** 156257-73-7
RL: BIOL (Biological study)
(C-type lectins of macrophage interaction with)
IT **156097-20-0**
RL: BIOL (Biological study)

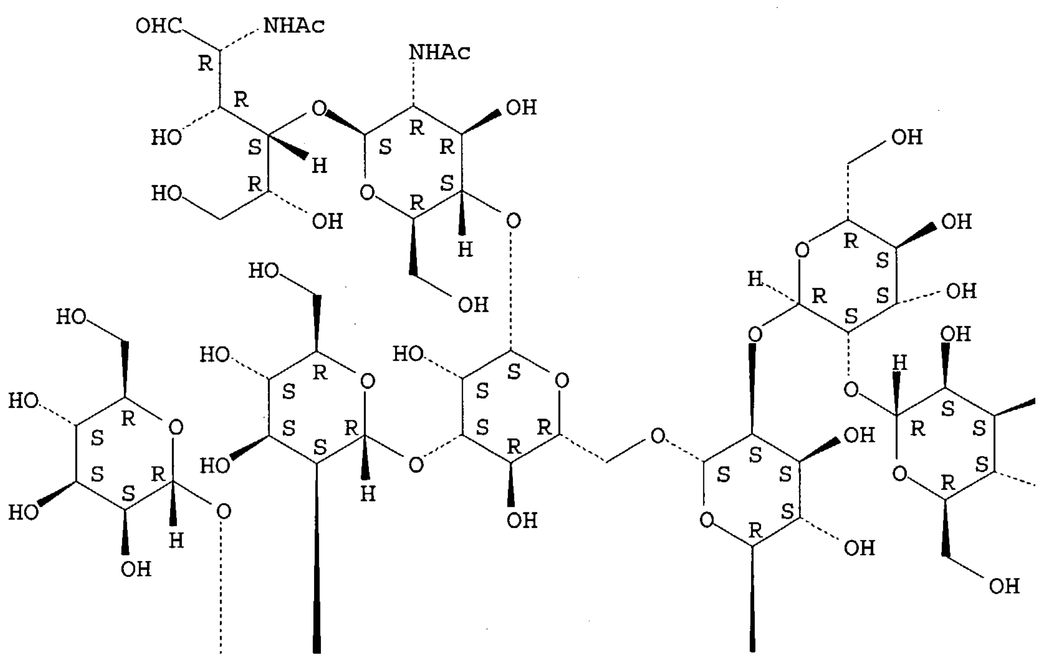
(C-type lectins of macrophage interaction with)

RN 156097-20-0 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

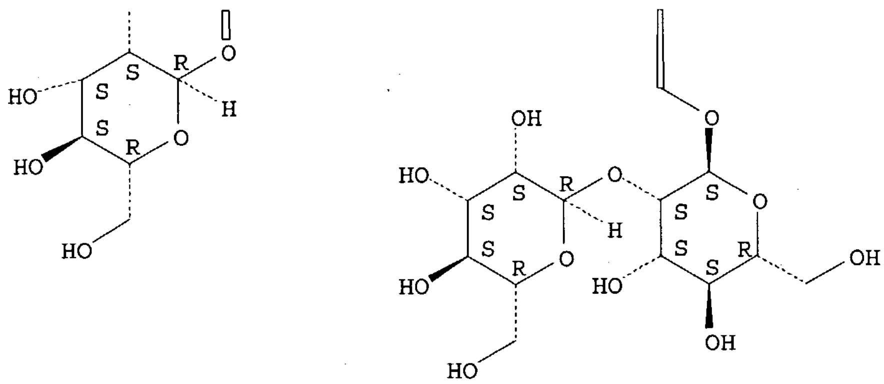
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A

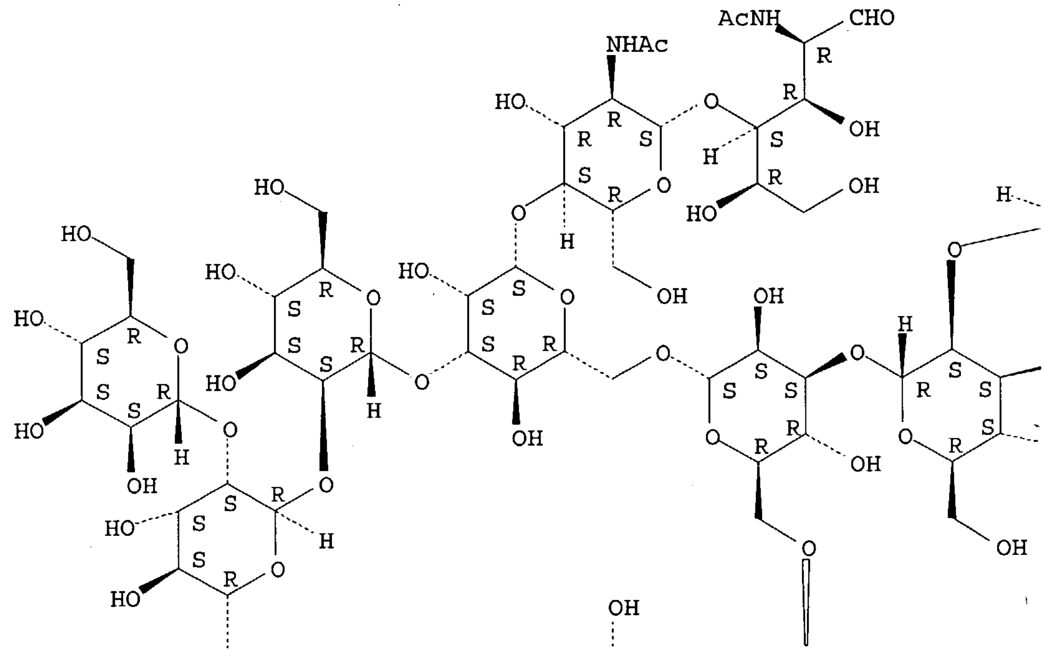


L91 ANSWER 9 OF 46 HCAPLUS
AN 1994:99742 HCAPLUS
DN 120:99742
ED Entered STN: 05 Mar 1994
TI Role of intramolecular **high-mannose** chains in the folding and assembly of soybean (Glycine max) lectin polypeptides: Studies by the combined use of spectroscopy and gel-filtration size analysis
AU Nagai, Kaoru; Shibata, Keiichi; Yamaguchi, Haruki
CS Coll. Agric., Univ. Osaka Prefect., Sakai, 593, Japan
SO Journal of Biochemistry (Tokyo, Japan) (**1993**), 114(6), 830-4
CODEN: JOBIAO; ISSN: 0021-924X
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB It was previously reported [Nagai, K. & Yamaguchi, H. (1993) J. Biochem. 113, 123-125] that intramol. **high-mannose** chains are essential for reconstitution of soybean lectin from denatured subunits. To obtain more detailed information on the role of the intramol. **high-mannose** chains in the folding and assembly of soybean lectin polypeptides, the effects of **asparagine**-linked oligosaccharides, Man9GlcNAc2Asn (M9-**Asn**) and Glc1-3Man9GlcNAc2Asn (GM9-**Asn**), on the reconstitution of soybean lectin from denatured subunits were examined by comparison with a denaturation features of the lectin with varying concns. of guanidine hydrochloride. The combined use of spectroscopy and size-anal. by gel filtration revealed that both the folding and assembly of denatured subunit anal. polypeptides were completely prevented in the presence of 300 μM M9- **Asn**, whereas the same concentration of GM9-**Asn** only interfered with the polypeptide assembly, exhibiting no significant effect on the polypeptide folding. These results, considered together with those in the previous report, indicate that the sugar branch Manα1-2Man-α1-2Man linked to the 3 position of the β-mannosyl residue of the **high-mannose** chains functions in the folding of the subunit polypeptides, and that other branches participate in the subunit assembly.
ST lectin mannose oligosaccharide requirement structure soybean; conformation lectin mannose oligosaccharide requirement soybean; subunit assembly lectin mannose oligosaccharide soybean
IT Agglutinins and Lectins
RL: BIOL (Biological study)
(**high-mannose asparagine**-linked oligosaccharides requirement for folding and assembly of subunits of,

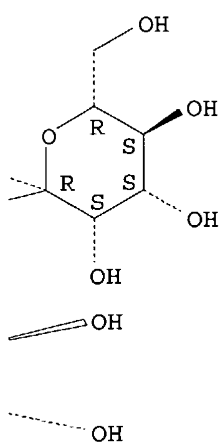
of soybean)
IT Soybean
(lectin of, folding and subunits assembly)
IT Conformation and Conformers
(of lectin, of soybean, **asparagine**-linked **high-mannose** oligosaccharides requirement for folding of)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, **asparagine**-linked, soybean lectin folding and subunits assembly requirement for)
IT Molecular association
(self-, of lectin subunits, of soybean, **asparagine**-linked **high-mannose** oligosaccharides requirement for assembly of)
IT **71246-55-4**
RL: BIOL (Biological study)
(**asparagine**-linked, soybean lectin folding and subunits assembly requirement for)
IT **71246-55-4D**, glucosylated
RL: BIOL (Biological study)
(**asparagine**-linked, soybean lectin folding and subunits assembly requirement for, of soybean)
IT **71246-55-4**
RL: BIOL (Biological study)
(**asparagine**-linked, soybean lectin folding and subunits assembly requirement for)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

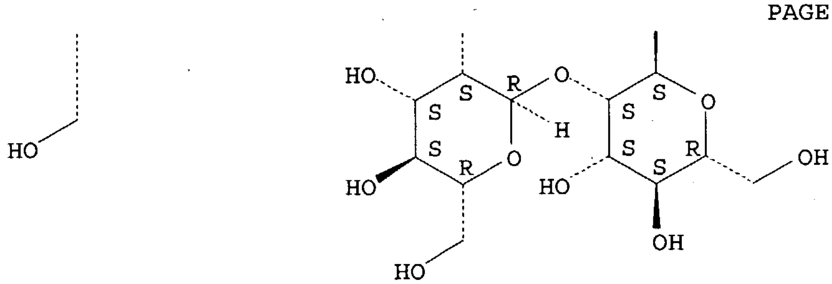
PAGE 1-A



PAGE 1-B



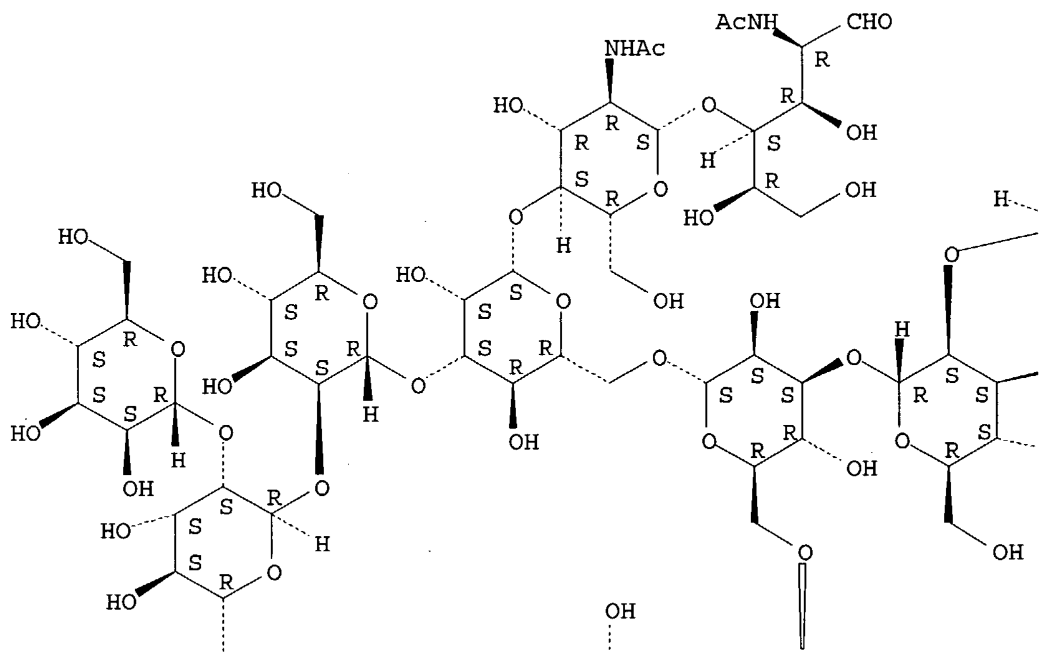
PAGE 2-A



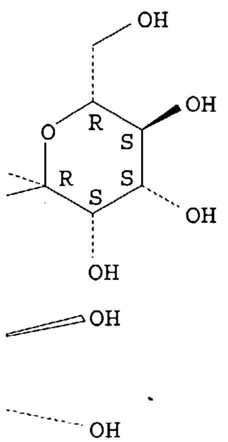
IT 71246-55-4D, glucosylated
RL: BIOL (Biological study)
(asparagine-linked, soybean lectin folding and subunits assembly requirement for, of soybean)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

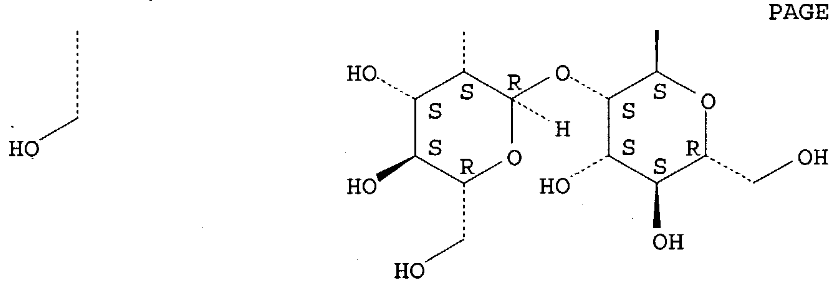
PAGE 1-A



PAGE 1-B



PAGE 2-A



L91 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:52320 HCAPLUS
DN 120:52320
ED Entered STN: 05 Feb 1994
TI Development of neoglycoproteins conjugated with natural oligosaccharides through carboxyl residues of proteins and its application to recombinant human interleukin 1
AU Ishihara, Hideko; Chiba, Taku; Takeuchi, Akihoko; Hayashi, Hidetoshi; Takei, Yutaka; Takii, Takemasa; Onozaki, Kikuo
CS Coll. Nursing, Mizuho, Nagoya City Univ., Nagoya, 467, Japan
SO Biochemistry and Molecular Biology International (**1993**), 31(3), 527-35
CODEN: BMBIES; ISSN: 1039-9712
DT Journal
LA English
CC 15-5 (Immunochemistry)
AB In order to develop glycosylated cytokines, neoglycoproteins were synthesized utilizing naturally occurring oligosaccharides. **High mannose** type oligosaccharide-**asparagine** (**Asn**)s, containing Man8GN2-**Asn**, Man7GN2-**Asn** and Man6GN2-**Asn**, were obtained from quail ovalbumin and were coupled to bovine serum albumin (BSA) by carbodiimide-mediated coupling. Major reaction occurred between amino residues of oligosaccharide-**Asns** and carboxyl residues of BSA. Approx. one mol. of oligosaccharides-**Asns** was coupled to each mol. of BSA with 50% yield of glycosylation. Among the oligosaccharides, Man6GN2-**Asn** appeared to be conjugated predominantly. While this strategy was applied to

recombinant human interleukin 1α (IL-1α), three mols. of oligosaccharide-**Asns** were introduced into each mol. of IL-1 with 10% yield of glycosylation.

ST synthetic neoglycoprotein prepn interleukin 1 glycosylation

IT Acetylation
(of oligosaccharide-**asparagine** conjugates)

IT Glycosidation
(of recombinant interleukin-1α, by reaction with oligosaccharides)

IT Lymphokines and Cytokines
RL: PREP (Preparation)
(interleukin 1α, preparation of glycosylated , from recombinant mol., by reaction with oligosaccharides)

IT Oligosaccharides
RL: RCT (Reactant); RACT (Reactant or reagent)
(mannose-containing, reaction of, in glycosylation of recombinant interleukin-1α and other proteins)

IT Glycoproteins, specific or class
RL: PREP (Preparation)
(neo-, preparation of, glycosylated recombinant interleukin 1 and other proteins as)

IT 25952-53-8, 1-Ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride
RL: BIOL (Biological study)
(in glycosylation of interleukin-1 and other proteins with oligosaccharides)

IT **77036-51-2 77355-54-5 84182-22-9**
RL: BIOL (Biological study)
(interleukin-1 and other proteins glycosylation with)

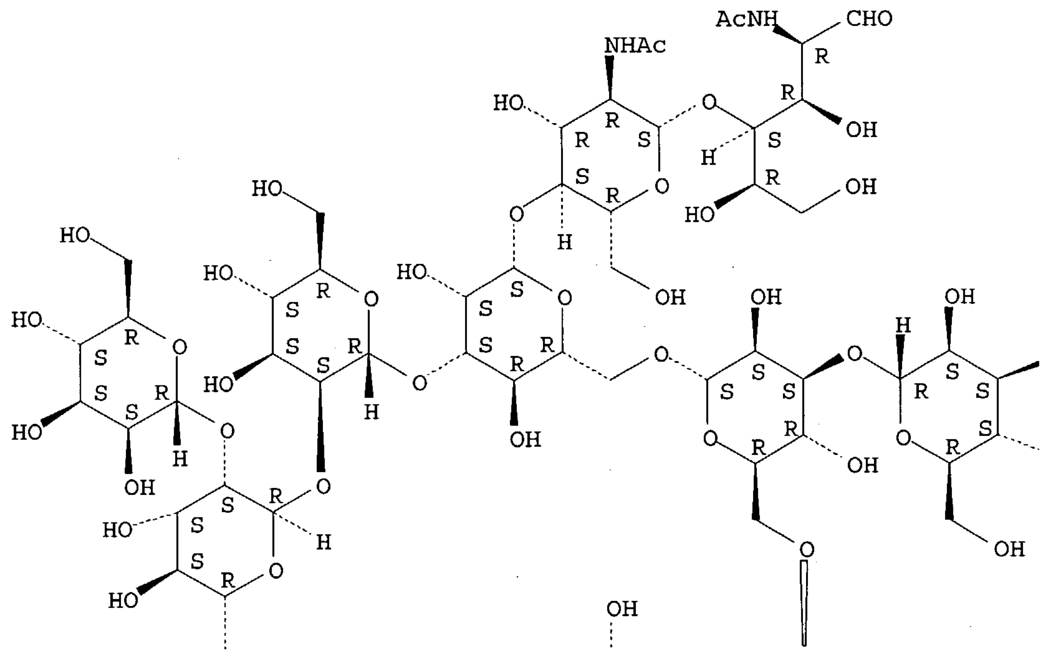
IT **77036-51-2 77355-54-5 84182-22-9**
RL: BIOL (Biological study)
(interleukin-1 and other proteins glycosylation with)

RN 77036-51-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

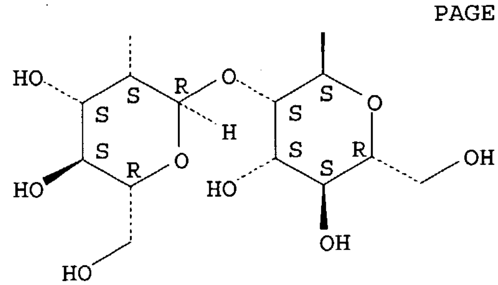
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

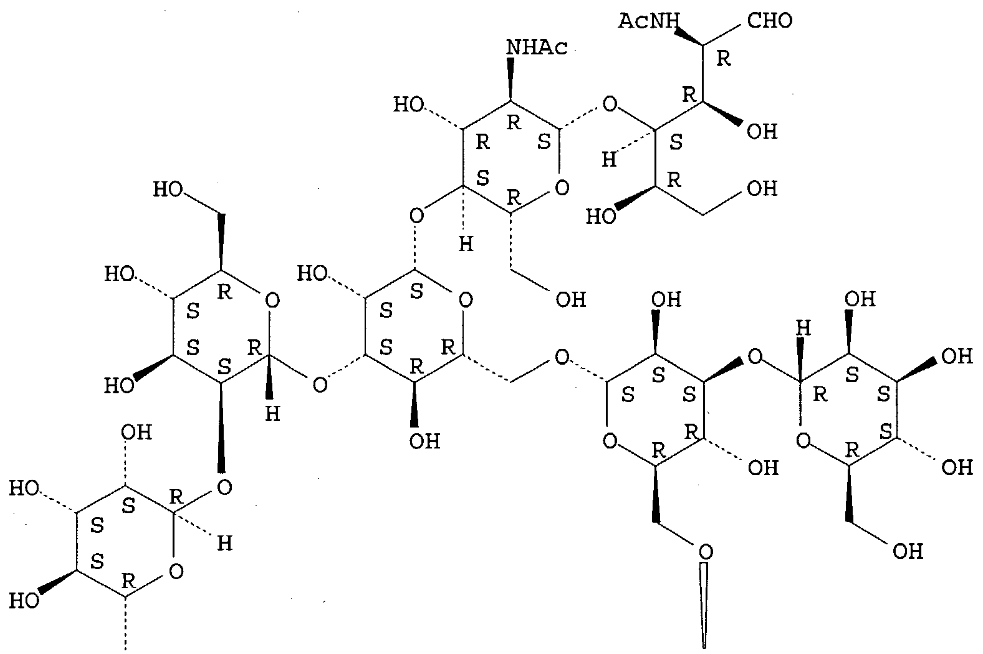
PAGE 2-A



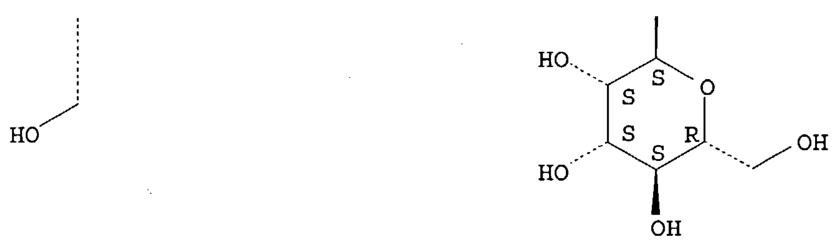
RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



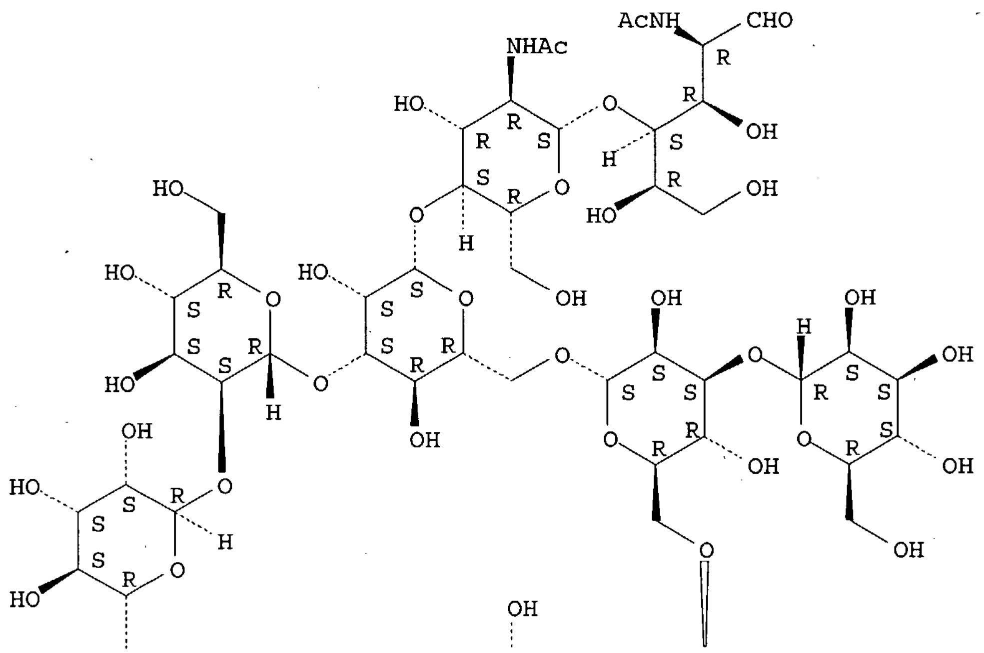
PAGE 2-A



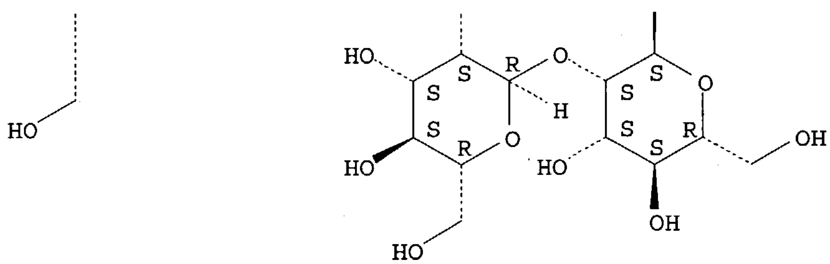
RN 84182-22-9 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



L91 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:48469 HCAPLUS
DN 120:48469
ED Entered STN: 05 Feb 1994
TI The carbohydrate structures of Trypanosoma brucei brucei MITat 1.6 variant surface glycoprotein. A re-investigation of the C-terminal glycan
AU Strang, Anne Marie; Allen, Anthony K.; Holder, Anthony A.; van Halbeek, Herman
CS Complex Carbohydr. Res. Cent., Univ. Georgia, Athens, GA, 30602-4712, USA
SO Biochemical and Biophysical Research Communications (**1993**), 196(3), 1430-9
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 6-4 (General Biochemistry)
AB The authors have studied the oligosaccharide chains of the variant surface glycoprotein (VSG) of Trypanosoma brucei brucei MITat 1.6. Glycopeptides were generated by Pronase digestion, purified by gel permeation and ion-exchange chromatog., and structurally characterized by 1H and 31P NMR spectroscopy in combination with chemical composition anal. The two glycopeptide

fractions obtained each proved to be homogeneous in their peptide and heterogeneous in their carbohydrate structures. The fraction representing the "internal" N-glycosylation site of the BSG was found to contain **high-mannose** type oligosaccharides with structures Man7-9GlcNAc2 linked to **Asn**-Ala-Thr. The other glycopeptide fraction contained the membrane-anchoring C-terminal glycan of the VSG attached to Asp. Its oligosaccharide structures are of the glycosylphosphaditylinositol (GPI) type.

ST Trypanosoma surface glycoprotein carbohydrate structure

IT Trypanosoma brucei brucei
(carbohydrate structures of MITat 1.6 variant surface glycoprotein of)

IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(of MITat 1.6 variant surface glycoprotein of Trypanosoma brucei brucei, structure of)

IT Glycolipoproteins
RL: BIOL (Biological study)
(VSG, of Trypanosoma brucei brucei, structure of carbohydrate of)

IT **84182-22-9D**, mannosylated 152159-09-6D, galactosylated
RL: BIOL (Biological study)
(of MITat 1.6 variant surface glycoprotein of Trypanosoma brucei brucei, structure of)

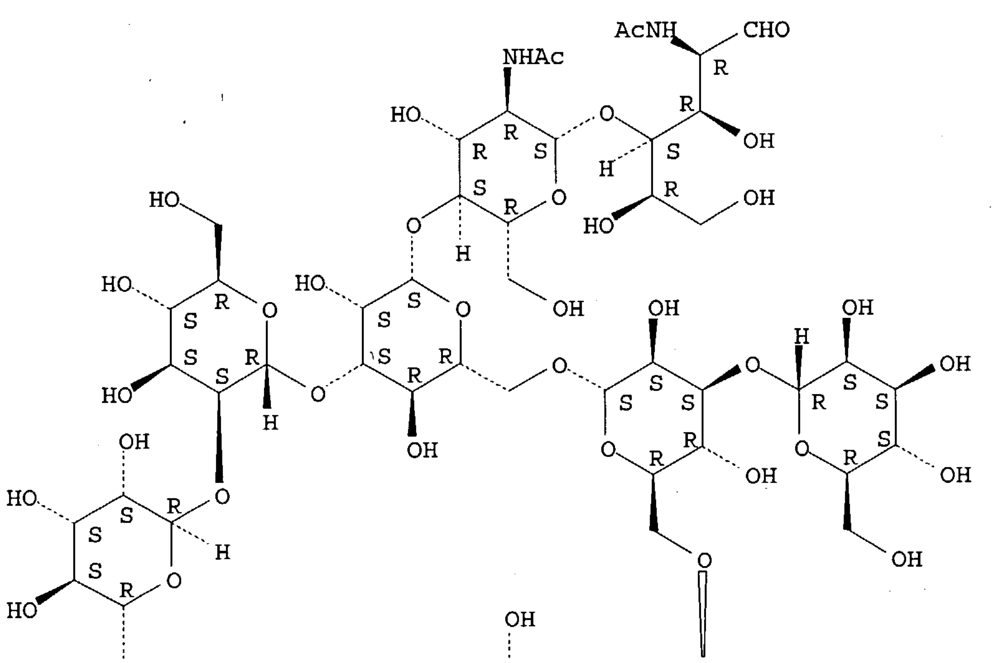
IT **84182-22-9D**, mannosylated
RL: BIOL (Biological study)
(of MITat 1.6 variant surface glycoprotein of Trypanosoma brucei brucei, structure of)

RN 84182-22-9 HCAPLUS

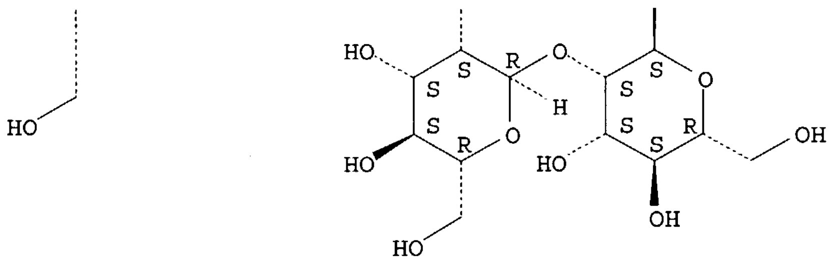
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

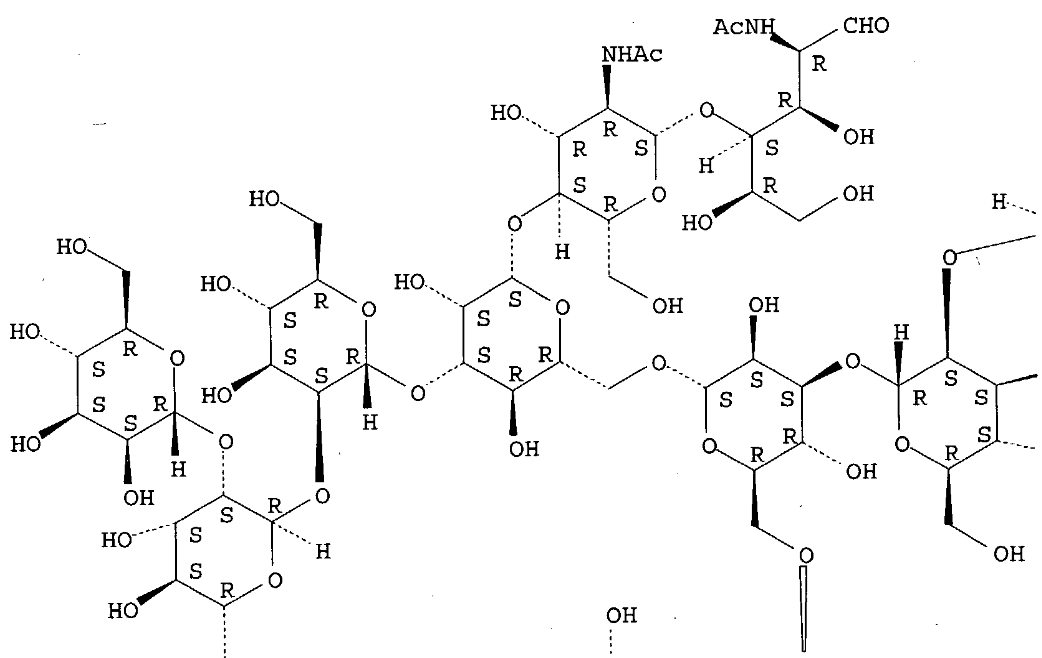


L91 ANSWER 12 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:598059 HCAPLUS
DN 119:198059
ED Entered STN: 13 Nov 1993
TI Site-specific N-glycosylation and oligosaccharide structures of recombinant HIV-1 gp120 derived from a baculovirus expression system
AU Yeh, Jiunn-Chern; Seals, Jonathan R.; Murphy, Cheryl I.; van Halbeek, Herman; Cummings, Richard D.
CS Health Sci. Cent., Univ. Oklahoma, Oklahoma City, OK, 73190, USA
SO Biochemistry (**1993**), 32(41), 11087-99
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 33
AB The authors report the complete structures of the N-linked oligosaccharides and the site-specificity of the N-glycosylation of recombinant gp120 (rgp120) of the HIV-1 BH8 isolate produced by a baculovirus expression system. Glycopeptides derived from the tryptic digests of intact rgp 120 or of cyanogen bromide-generated fragments of rgp120 were isolated by their binding to Con A-Sepharose and were purified by reversed-phase HPLC. The isolated glycopeptides were treated with PNGase F, releasing the carbohydrate moiety while converting **Asn** to Asp, and identified by amino acid anal. and/or peptide sequencing. The authors' results indicate that all 22 potential N-glycosylation sites in the rgp120 sequence are utilized. The authors did not detect N-acetylgalactosamine in rgp120, indicating that the glycoprotein lacks typical O-linked oligosaccharides. To investigate the oligosaccharide structures at the sites of glycosylation, the authors determined the carbohydrate composition for each site and characterized the oligosaccharides by 1H-NMR spectroscopy and by oligosaccharide mapping using high pH anion-exchange chromatog. Mannose and N-acetylglucosamine were the only sugars observed in the intact rgp120 and likewise in individual glycopeptides. All glycopeptides derived from rpg120 contained **high mannose**-type N-linked oligosaccharides, ranging from GlcNAc2Man5 to GlcNAc2Man9. However, different glycosylation sites showed varied degrees of processing of the **high mannose** -type oligosaccharides, as characterized by the ratio of GlcNAc2Man8-9 to GlcNAc2Man5-7. These results demonstrate that N-glycosylation of rgp120 in the baculovirus expression system occurs at all potential sites and is site specific in terms of oligosaccharide structures.
ST HIV1 gp120 glycoprotein recombinant mannose oligosaccharide; glycosylation gp120 glycoprotein recombinant HIV1
IT Glycosidation
(of gp120 glycoprotein recombinant form of HIV-1 virus, site-specificity of)

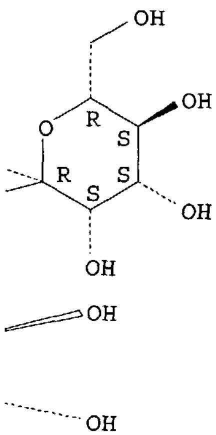
IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(of gp120 glycoproteins recombinant form, of HIV-1 virus)
IT Sialoglycoproteins
RL: BIOL (Biological study)
(gp120env, oligosaccharides structure and site-specific glycosylation of recombinant, of HIV-1 virus)
IT Virus, animal
(human immunodeficiency 1, gp120 glycoprotein recombinant form of, oligosaccharide structure and site-specific glycosylation of)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of gp120 glycoprotein recombinant form, of HIV-1 virus, structure and site-specific processing of)
IT **71246-55-4**
RL: PROC (Process)
(of gp120 glycoprotein recombinant form, of HIV-1 virus, site-specific processing of)
IT **71246-55-4**
RL: PROC (Process)
(of gp120 glycoprotein recombinant form, of HIV-1 virus, site-specific processing of)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

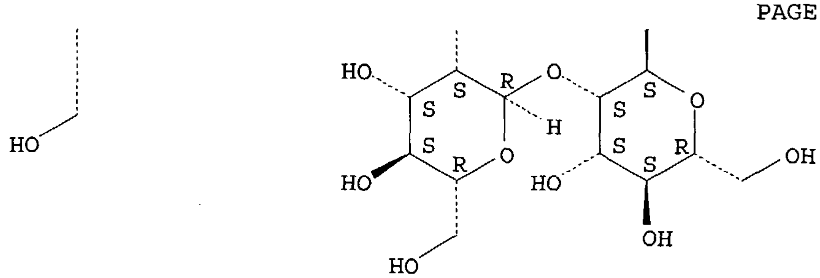
PAGE 1-A



PAGE 1-B



PAGE 2-A



L91 ANSWER 13 OF 46 HCAPLUS
AN 1993:466091 HCAPLUS
DN 119:66091
ED Entered STN: 21 Aug 1993
TI Structural study of the sugar chains of CD36 purified from bovine mammary epithelial cells: Occurrence of novel hybrid-type sugar chains containing the Neu5Acα2→6GalNAcβ1→4GlcNAc and the Manα1→2Manα1→3Manα1→6Man groups
AU Nakata, Noboru; Furukawa, Kiyoshi; Greenwalt, Dale E.; Sato, Takeshi; Kobata, Akira
CS Inst. Med. Sci., Univ. Tokyo, Tokyo, 108, Japan
SO Biochemistry (**1993**), 32(16), 4369-83
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 13
AB CD36 is a glycoprotein included in the bovine milk fat globule membrane derived from mammary secretory epithelial cells during lactation. **Asparagine**-linked sugar chains were quant. released from CD36 as oligosaccharides by hydrazinolysis. These sugar chains were converted to radioactive oligosaccharides by reduction with NaB3H4 and separated into neutral
and acidic fractions by paper electrophoresis. Most of the acidic oligosaccharides were converted to neutral ones by sialidase digestion, indicating that they are sialyl derivs. The neutral and sialidase-treated acidic oligosaccharides were fractioned by Bio-Gel P-4 column chromatog. in combination with serial chromatog. on immobilized lectin columns

including a Wistaria floribunda agglutinin (WFA)-agarose column. WFA is known to bind oligosaccharides terminating with either an α- or β-N-acetylgalactosamine residue. Structural studies of oligosaccharides in each fraction by sequential exoglycosidase digestion as well as methylation anal. revealed that CD36 contains **high mannose**-type, hybrid-type, and bi-, tri-, and tetraantennary complex-type sugar chains. A portion of the hybrid-type and the complex-type sugar chains which bound to a WFA-agarose column (28% of all oligosaccharides) contained the GalNAcβ1→4GlcNAc group(s) instead of the GalNAc group(s) in their outer chain moieties. Like oligosaccharides found in human LH (Weisshaar, G., et al., 1991), some of the GalNAcβ1→4GlcNAc groups found in the CD36 oligosaccharides were sialylated as the Neu5Acα2→6GalNAc group. Furthermore, most of the hybrid-type sugar chains of CD36 with the Gal/GalNAcβ1→4GlcNAcβ1→2 outer chain on their Manα1→3 arm contained an unusual Manα1→2Manα1→3 group on their Manα1→6 arm.

ST oligosaccharide glycoprotein CD36 mammary epithelium; glycoprotein IIIb oligosaccharide mammary epithelium

IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(IIIb, oligosaccharides of, of milk fat globule membrane, structure of)

IT Oligosaccharides
RL: BIOL (Biological study)
(N-linked, of glycoprotein CD36 of mammary epithelium, structure of)

IT Mammary gland
(epithelium, glycoprotein CD36 of, oligosaccharides of, structure of)

IT Oligosaccharides
RL: BIOL (Biological study)
(sialo-, N-linked, of glycoprotein CD36 of mammary epithelium, structure of)

IT **66091-47-2D**, mannosylated 71496-53-2 78392-81-1 111929-14-7
111937-74-7 111945-05-2 111962-72-2 112822-58-9 121123-35-1
121123-39-5 132908-01-1 148556-13-2 148556-14-3 148614-73-7
148615-17-2 148615-18-3 148615-21-8 148615-22-9 148682-81-9
148682-82-0 148682-83-1 148682-84-2 148682-85-3 148892-76-6
148892-77-7 148892-78-8 148892-94-8 148913-52-4 148913-53-5
RL: BIOL (Biological study)
(of glycoprotein CD36, of mammary epithelium)

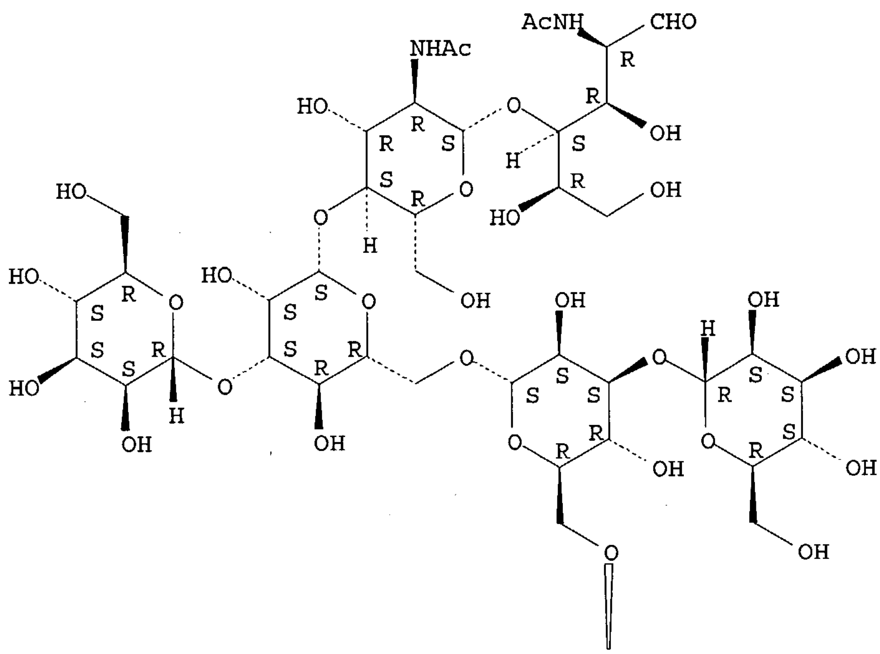
IT **66091-47-2D**, mannosylated
RL: BIOL (Biological study)
(of glycoprotein CD36, of mammary epithelium)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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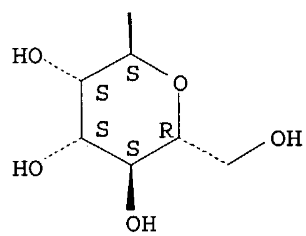


L91 ANSWER 14 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:403677 HCAPLUS
DN 119:3677
ED Entered STN: 10 Jul 1993
TI Effect of substrate structure on the activity of Man9-mannosidase from pig liver involved in N-linked oligosaccharide processing
AU Bause, Ernst; Breuer, Wilhelm; Schweden, Juergen; Roeser, Rainer; Geyer, Rudolf
CS Inst. Physiol. Chem., Bonn, W-5300/1, Germany
SO European Journal of Biochemistry (**1992**), 208(2), 451-7
CODEN: EJBCAI; ISSN: 0014-2956
DT Journal
LA English
CC 7-3 (Enzymes)
AB Man9-mannosidase, an α1,2-specific enzyme located in the endoplasmic reticulum and involved in N-linked-oligosaccharide processing, has been isolated from crude pig-liver microsomes and its substrate specificity studied using a variety of free and peptide-bound **high-mannose** oligosaccharide derivs. The purified enzyme displays no activity toward synthetic α-mannosides, but removes three

α1,2-mannose residues from the natural Man9-(GlcNAc)2 substrate (M9). The α1,2-mannosidic linkage remaining in the M6 intermediate is cleaved about 40-fold more slowly. Similar kinetics of hydrolysis were determined with Man9-(GlcNAc)2 N-glycosidically attached to the hexapeptide Tyr-**Asn**-Lys-Thr-Ser-Val (GP-M9), indicating that the specificity of the enzyme is not influenced by the peptide moiety of the substrate. The α1,2-mannose residue which is largely resistant to hydrolysis, was found to be attached in both the M6 and GP-M6 intermediate to the α1,3-mannose of the peripheral α1,3/α1,6-branch of the glycan chain. Studies with glycopeptides varying in the size and branching pattern of the sugar chains, revealed that the relative rates at which the various α1,2-mannosidic linkages were cleaved, differed depending on their structural complexity. This suggests that distinct sugar residues in the aglycon moiety may be functional in substrate recognition and binding. Reduction or removal of the terminal GlcNAc residue of the chitobiose unit in M9 increased the hydrolytic susceptibility of the fourth (previously resistant) α1,2-mannosidic linkage significantly. It was concluded from this observation that, in addition to peripheral mannose residues, the intact chitobiose core represents a structural element affecting Man9-mannosidase specificity. A possible biol. role of the enzyme during N-linked-oligosaccharide processing is discussed.

ST liver mannosidase specificity oligosaccharide chitobiose core

IT Liver, composition
(mannosidase of endoplasmic reticulum of, substrate specificity of, chitobiose core in)

IT Endoplasmic reticulum
(mannosidase of, of liver, substrate specificity of, chitobiose core in)

IT Kinetics, enzymic
(of mannosidase, of liver for mannooligosaccharides and glycopeptides)

IT Glycopeptides
Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, mannosidase of liver endoplasmic reticulum specificity for, chitobiose core in)

IT Molecular structure-biological activity relationship
(mannosidase substrate, of mannose-containing oligosaccharides and glycopetides)

IT 69775-84-4 **71246-55-4** 83562-97-4 144644-29-1 144644-30-4 144644-31-5 144671-62-5 144671-63-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with mannosidase of liver endoplasmic reticulum, kinetics of, structure in relation to)

IT 9068-25-1, α-1,2-Mannosidase
RL: BIOL (Biological study)
(substrate specificity of, of liver endoplasmic reticulum, chitobiose core in)

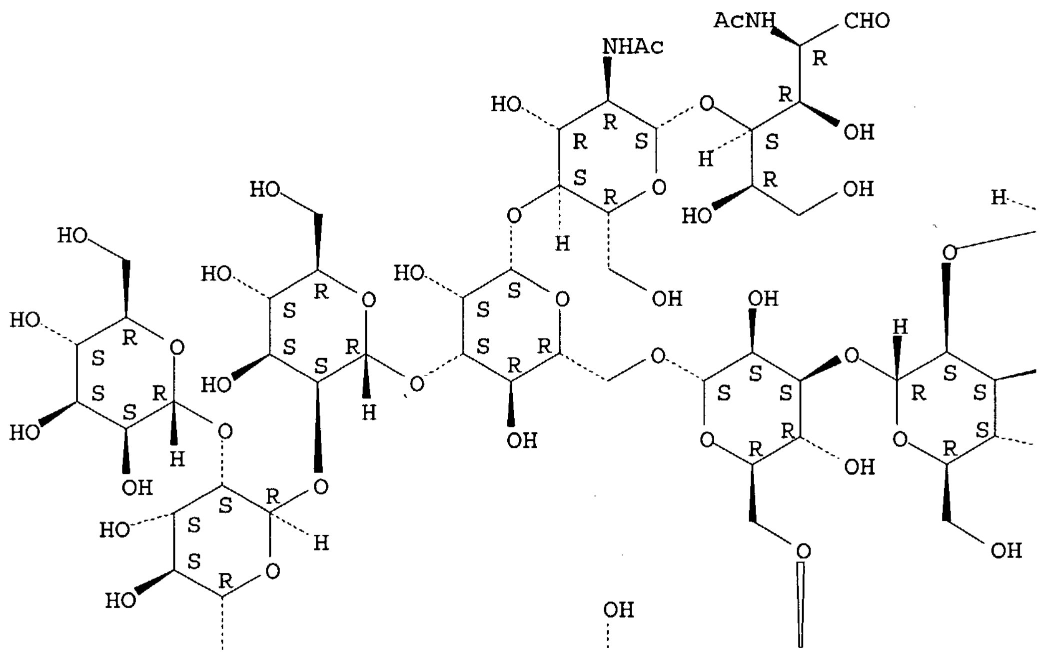
IT **71246-55-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with mannosidase of liver endoplasmic reticulum, kinetics of, structure in relation to)

RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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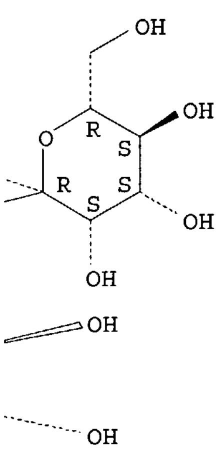
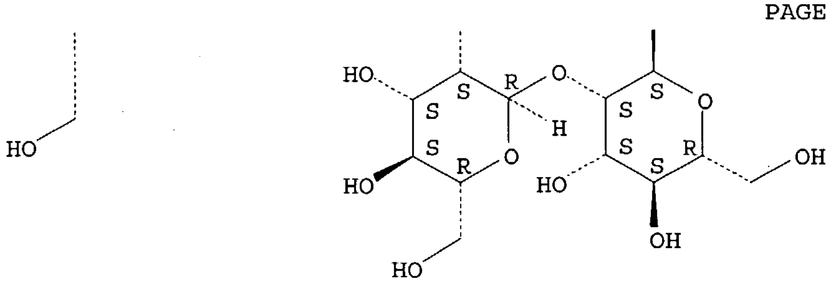


PAGE 2-A

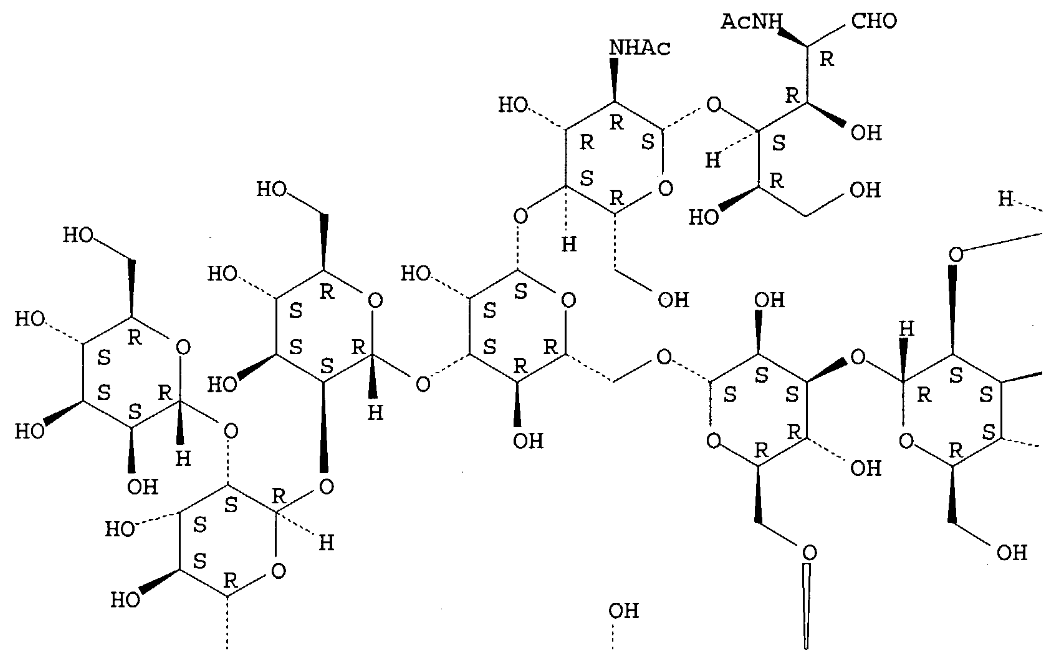


L91 ANSWER 15 OF 46 HCAPLUS
AN 1993:228517 HCAPLUS
DN 118:228517
ED Entered STN: 12 Jun 1993
TI Direct demonstration of the essential role of the intramolecular **high-mannose** oligosaccharide chains in the folding and assembly of soybean (Glycine max) lectin polypeptides
AU Nagai, Kaoru; Yamaguchi, Haruki
CS Coll. Agric., Univ. Osaka Prefect., Sakai, 593, Japan
SO Journal of Biochemistry (Tokyo, Japan) (**1993**), 113(2), 123-5
CODEN: JOBIAO; ISSN: 0021-924X
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The role of the intramol. **high-mannose** oligosaccharide chains in the folding and assembly of soybean lectin polypeptides was investigated. Soybean lectin, dissociated into subunits and completely denatured in 6M guanidine hydrochloride, was quant. reconstituted to the active tetrameric structure by simple dilution However, neither the activity nor the tetrameric structure was regained in the presence of 100 μM of an **asparagine**-linked oligosaccharide, MangGlcNAc2Asn, having the same structure as that of the sugar chains of soybean lectin. Besides, the same concentration of this glycopeptide even dissociated, although only gradually, the native lectin into subunits. On the other hand, the deglycosylated subunits had no ability to regain the activity or the tetrameric structure. The present study provided for the first time direct evidence of the essential role of the intramol. **high-mannose** oligosaccharide chains in the proper folding and assembly of glycopolypeptides.
ST soybean lectin folding assembly oligosaccharide
IT Soybean
(lectin of, folding and subunit assembly of, **high-mannose** oligosaccharide chains role in)
IT Quaternary structure
(of soybean lectin, assembly of, **high-mannose** oligosaccharide chains role in)
IT Conformation and Conformers
(of soybean lectin, folding of, **high-mannose** oligosaccharide chains role in)
IT Agglutinins and Lectins
RL: BIOL (Biological study)
(of soybean, folding and subunit assembly of, **high-mannose** oligosaccharide chains role in)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of soybean lectin, folding and subunit assembly requirement for)
IT **71246-55-4**
RL: BIOL (Biological study)
(of soybean lectin, folding and subunit assembly requirement for)
IT **71246-55-4**
RL: BIOL (Biological study)
(of soybean lectin, folding and subunit assembly requirement for)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX

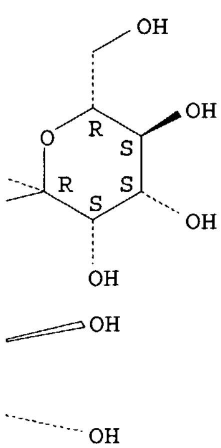
NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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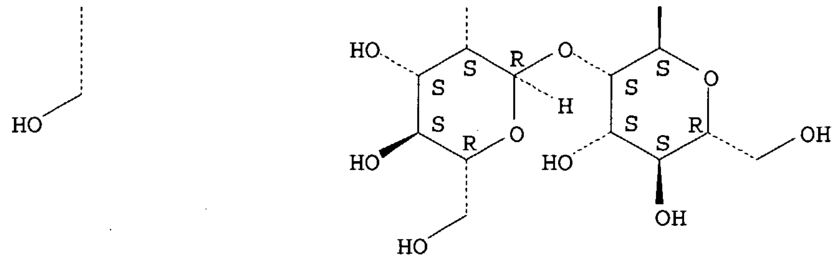


L91 ANSWER 16 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:167052 HCAPLUS
DN 118:167052
ED Entered STN: 01 May 1993
TI Characterization of recombinant murine interleukin 5 expressed in Chinese hamster ovary cells
AU Kodama, Shiho; Endo, Tamao; Tsujimoto, Masafumi; Kobata, Akira
CS Suntory Inst. Biomed. Res., Osaka, 618, Japan
SO Glycobiology (**1992**), 2(5), 419-27
CODEN: GLYCE3; ISSN: 0959-6658
DT Journal
LA English
CC 15-5 (Immunochemistry)
AB The authors purified recombinant murine interleukin 5 (rmIL-5) from the supernatant of Chinese hamster ovary cells. Each peptide fragment of the purified rmIL-5 generated by Achromobacter protease I digestion was characterized and glycosylation sites were determined Although rmIL-5 contains 3 potential sites of N-linked glycosylation (**Asn**-26, **Asn**-55, and **Asn**-69), **Asn**-69 is not glycosylated. The oligosaccharides released from the protein by hydrazinolysis were fractionated by paper electrophoresis, lectin column chromatog., and gel permeation chromatog., and their structures were analyzed by sequential exoglycosidase digestion in combination with methylation anal. The results indicated that they are a mixture of bi-, tri-, and tetraantennary complex-type sugar chains with and without a fucose at the C-6 position of the proximal N-acetylglucosamine residue and **high-mannose**-type sugar chains. Although >80% of the sugar chains are neutral oligosaccharides similar to recombinant human IL-5, rmIL-5 has more tetraantennary oligosaccharides than rhIL-5. A site differential study revealed that **Asn**-55 has more tetraantennary oligosaccharides than **Asn**-26.
ST mouse interleukin 5 oligosaccharide
IT Mouse
(interleukin-5 of, recombinant, from Chinese hamster ovary cells, oligosaccharides of)
IT Glycosidation
(of recombinant interleukin-5 of mouse from CHO cell line, sites for)
IT Protein sequences
(of recombinant interleukin-5 of mouse, glycosylation sites and oligosaccharides in relation to)
IT Animal cell line
(CHO, interleukin-5 of mouse from, oligosaccharides of, characterization of)
IT Oligosaccharides
RL: BIOL (Biological study)
(branched, **high-mannose**, N-linked, of recombinant interleukin-5 of mouse, from Chinese hamster ovary cells)
IT Oligosaccharides
RL: BIOL (Biological study)

(fucose-containing, of recombinant interleukin-5 of mouse, from Chinese hamster ovary cells)

IT Oligosaccharides
RL: BIOL (Biological study)
(galactosyl-terminated, branched, of recombinant interleukin-5 of mouse, from Chinese hamster ovary cells)

IT Lymphokines and Cytokines
RL: BIOL (Biological study)
(interleukin 5, oligosaccharides of recombinant mouse, from Chinese hamster ovary cells)

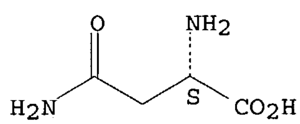
IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(as residue 26 and 55 of recombinant interleukin-5 of mouse, oligosaccharide linked to, from CHO cell line)

IT 71496-53-2 **77355-54-5 77449-92-4** 78392-81-1
83412-55-9 84813-89-8 93445-86-4 107688-07-3
RL: BIOL (Biological study)
(of recombinant interleukin-5 of mouse from CHO cell line)

IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(as residue 26 and 55 of recombinant interleukin-5 of mouse, oligosaccharide linked to, from CHO cell line)

RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

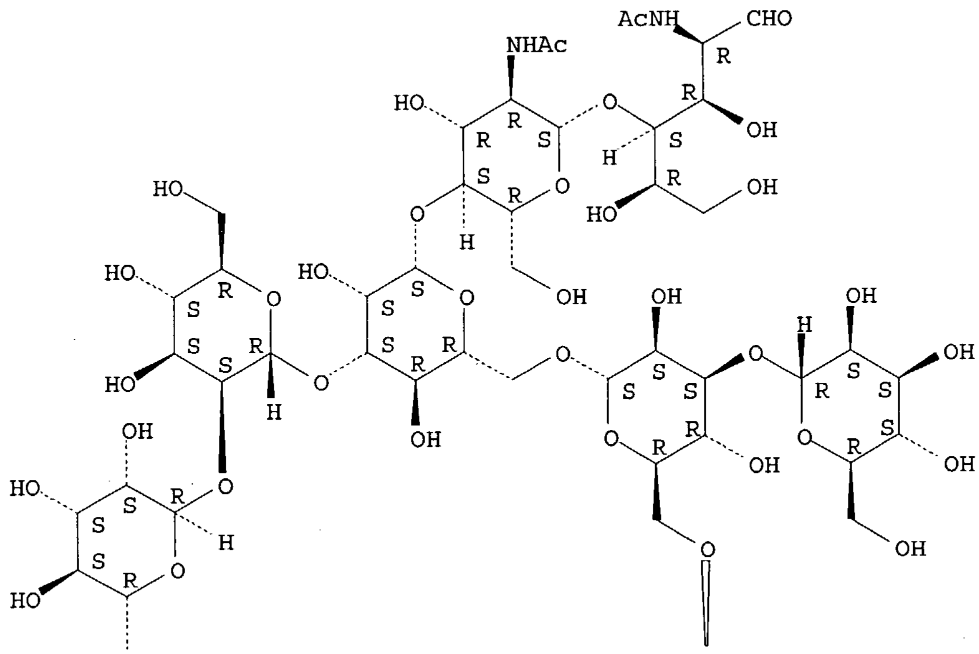


IT **77355-54-5 77449-92-4**
RL: BIOL (Biological study)
(of recombinant interleukin-5 of mouse from CHO cell line)

RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

RN 77449-92-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, mono-α-D-mannopyranoside (9CI) (CA INDEX NAME)

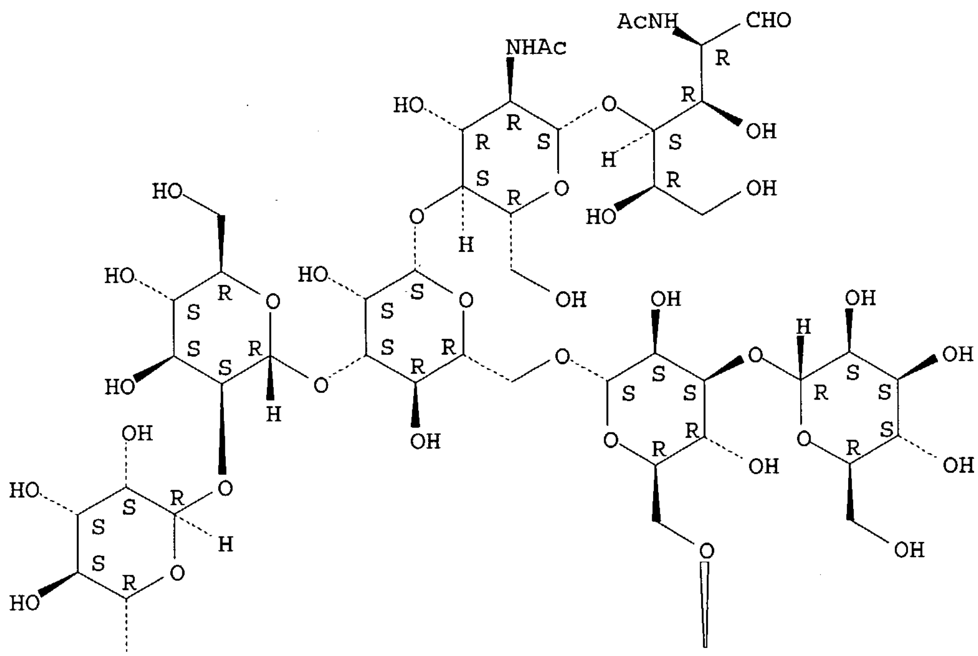
CM 1

CRN 77355-54-5

CMF C52 H88 N2 O41

Absolute stereochemistry.

PAGE 1-A

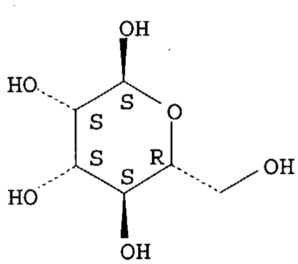


PAGE 2-A

CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



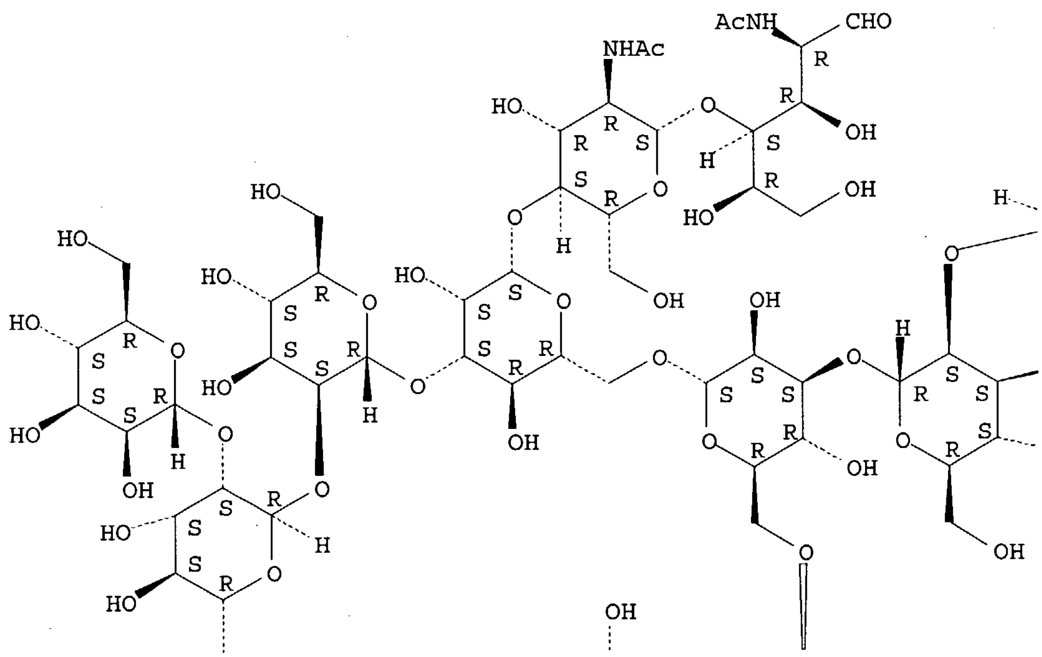
L91 ANSWER 17 OF 46 HCAPLUS

AN 1993:37452 HCAPLUS
DN 118:37452
ED Entered STN: 03 Feb 1993
TI Role of target cell glycoproteins in sensitivity to natural killer cell lysis
AU Ahrens, Patricia B.
CS Dep. Biochem., Med. Coll. Wisconsin, Milwaukee, WI, 53226, USA
SO Journal of Biological Chemistry (**1993**), 268(1), 385-91
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 15-10 (Immunochemistry)
AB Natural killer cells select targets for lysis based on target cell glycoproteins. Compared to controls, K-562 cells treated with kifunensine, an inhibitor of Golgi mannosidase I, accumulate more **high mannose**-type **asparagine**-linked oligosaccharide, Man9GlcNAc2, and bind more Con A, and oligomannosyl binding lectin. In addition, natural killer cell lysis of kifunensine-treated cells increases 34% over that of controls. Increased sensitivity to lysis occurs after treatment with other N-glycan processing inhibitors that promote accumulation of **high mannose** -type glycosides (deoxymannojirimycin and swainsonine). In addition, kifunensine-treated cells form more effector:target conjugates. Monoclonal antibodies to the adhesion mol. LFA-1 and its ligand ICAM-1 reduce lysis of control targets but are less effective in blocking lysis of kifunensine-treated cells. K-562 cells bind anti-ICAM-1 but not anti-LFA-1, and this binding does not change after kifunensine treatment. These data demonstrate conclusively a role for **asparagine**-linked oligosaccharides in the human natural killer cell:target interaction. The presence of **high mannose**-type glycans on K-562 cells correlates with increased binding of effectors and a greater susceptibility to lysis. Thus, target cell N-glycosides influence the NK-target interaction mediated by adhesion mols. such as ICAM-1.
ST target glycoprotein natural killer cytolysis
IT Cytolysis
(natural killer cell-mediated, sensitivity to, target cell glycoproteins role in)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(ICAM-1 (intercellular adhesion mol. 1), target cell glycoproteins role in sensitivity to natural killer cell-mediated cytolysis in relation to)
IT Integrins
RL: BIOL (Biological study)
(antigens LFA-1, target cell glycoproteins role in sensitivity to natural killer cell-mediated cytolysis in relation to)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(mannose-containing, in target cell sensitivity to natural killer cell-mediated cytolysis)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, N-linked, in target cell sensitivity to natural killer cell-mediated cytolysis)
IT Lymphocyte
(natural killer cell, cytolysis by, sensitivity to, target cell glycoproteins role in)
IT **71246-55-4**
RL: BIOL (Biological study)
(in target cell sensitivity to natural killer cell-mediated cytolysis)
IT **70-47-3**, **Asparagine**, biological studies
RL: BIOL (Biological study)
(mannose-rich oligosaccharides linked to, in target cell sensitivity to

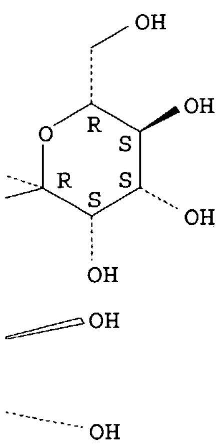
natural killer cell-mediated cytolysis)
IT 71246-55-4
RL: BIOL (Biological study)
(in target cell sensitivity to natural killer cell-mediated cytolysis)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

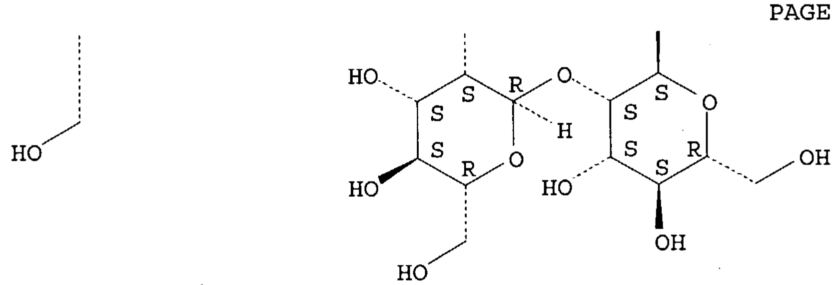
PAGE 1-A



PAGE 1-B

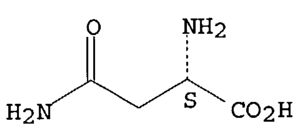


PAGE 2-A



IT 70-47-3, **Asparagine**, biological studies
RL: BIOL (Biological study)
(mannose-rich oligosaccharides linked to, in target cell sensitivity to natural killer cell-mediated cytolysis)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



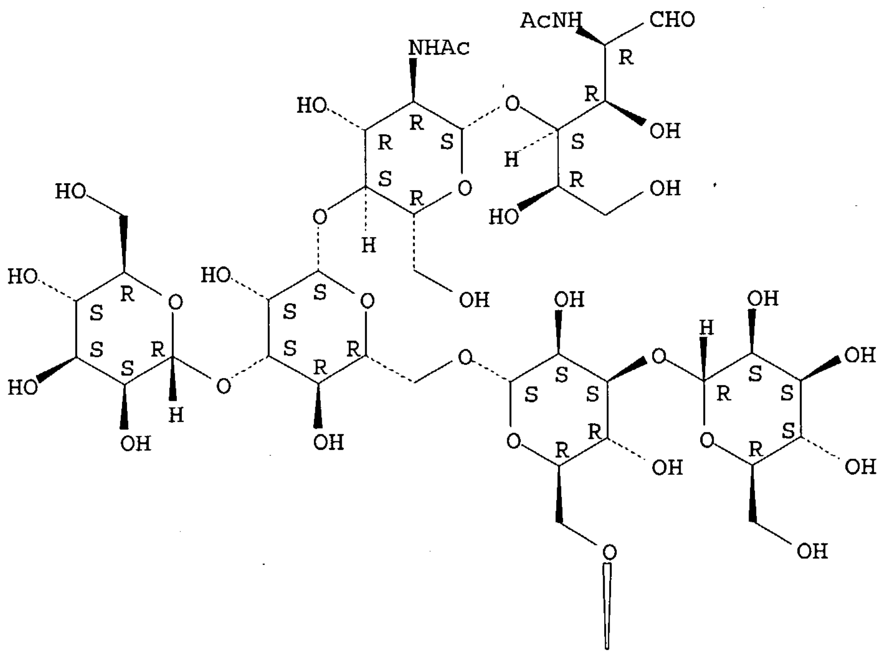
L91 ANSWER 18 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:566202 HCAPLUS
DN 117:166202
ED Entered STN: 01 Nov 1992
TI Detailed structural analysis of **asparagine**-linked oligosaccharides of the nicotinic acetylcholine receptor from Torpedo californica
AU Shoji, Hiroki; Takahashi, Noriko; Nomoto, Hiroshi; Ishikawa, Masami; Shimada, Ichio; Arata, Yoji; Hayashi, Kyozo
CS Dep. Mol. Biol., Gifu Pharm. Univ., Gifu, 502, Japan
SO European Journal of Biochemistry (**1992**), 207(2), 631-41
CODEN: EJBCAI; ISSN: 0014-2956

DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 33
AB The structures of the major oligosaccharide moieties of the nicotinic acetylcholine receptor (AcChoR) protein from T. californica have been reported (Nomoto, H. et al., 1986) to be **high-mannose** types. Here detailed analyses of the structures of the remaining oligosaccharides in this receptor are reported. The sialylated oligosaccharides released by glycopeptidase (almond) digestion were separated according to the number of sialic acid residues using high-performance anion-exchange chromatog. with pulsed amperometric detection. After removal of sialic acid from each fraction, the resulting neutral oligosaccharides were sep. pyridylaminated and were analyzed by a combination of sequential exoglycosidase digestion and HPLC, then identified on a two-dimensional sugar map. The structures of two desialylated pyridylamino-oligosaccharides were further analyzed by high-resolution proton NMR. Each oligosaccharide was composed of species containing varying nos. of sialic acids. The desialylated complex-type oligosaccharides of AcChoR consisted of ten, eight and one different biantennary, triantennary and tetraantennary oligosaccharide, resp. The biantennary oligosaccharides were divided into two groups; oligosaccharides with fucose at the proximal N-acetylglucosamine (six varieties) and oligosaccharides without fucose (four varieties). Each group consisted of species differing in the number of terminal galactose residues. The major component of the biantennary oligosaccharides had two galactose residues at the non-reducing termini. The terminal α-galactose residue(s) linked to C3 of β-galactose were found in the fucose-containing biantennary oligosaccharides (two varieties). The triantennary oligosaccharides were also divided into two groups; oligosaccharides with (four varieties) and without (four varieties) bisecting N-acetylglucosamine. These groups were composed of species differing in the number of terminal galactose residues. The major component of the triantennary oligosaccharides was fully galactosylated with three galactose residues. An unusual group, Galβ1-3GlcNAc, was present in low levels in the triantennary oligosaccharides. In contrast, the tetrantennary oligosaccharide was composed of only one species, which is fully galactosylated with four galactose residues.
ST Torpedo nicotinic acetylcholine receptor oligosaccharide
IT Torpedo californica
(nicotinic acetylcholine receptor of, **asparagine**-linked oligosaccharides of, structure of)
IT Oligosaccharides
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor, of Torpedo californica, structure of **asparagine**-linked)
IT Receptors
RL: BIOL (Biological study)
(nicotinic, **asparagine**-linked oligosaccharides of, of Torpedo californica, structure of)
IT **66091-47-2** **71246-55-4** 71496-53-2 **77036-51-2**
77355-54-5 78392-81-1 82867-73-0 82867-74-1 83419-14-1
84807-99-8 84808-02-6 84825-26-3 84825-29-6 85394-22-5
85394-27-0 92344-08-6 103584-68-5 107676-46-0 109050-95-5
110402-12-5 111059-47-3 143501-93-3 143516-20-5
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor, of Torpedo californica, structure of)
IT **66091-47-2** **71246-55-4** **77036-51-2**
77355-54-5
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor, of Torpedo californica, structure of)

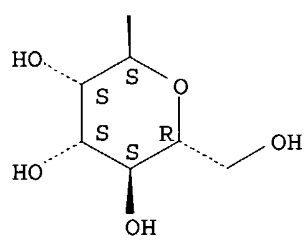
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



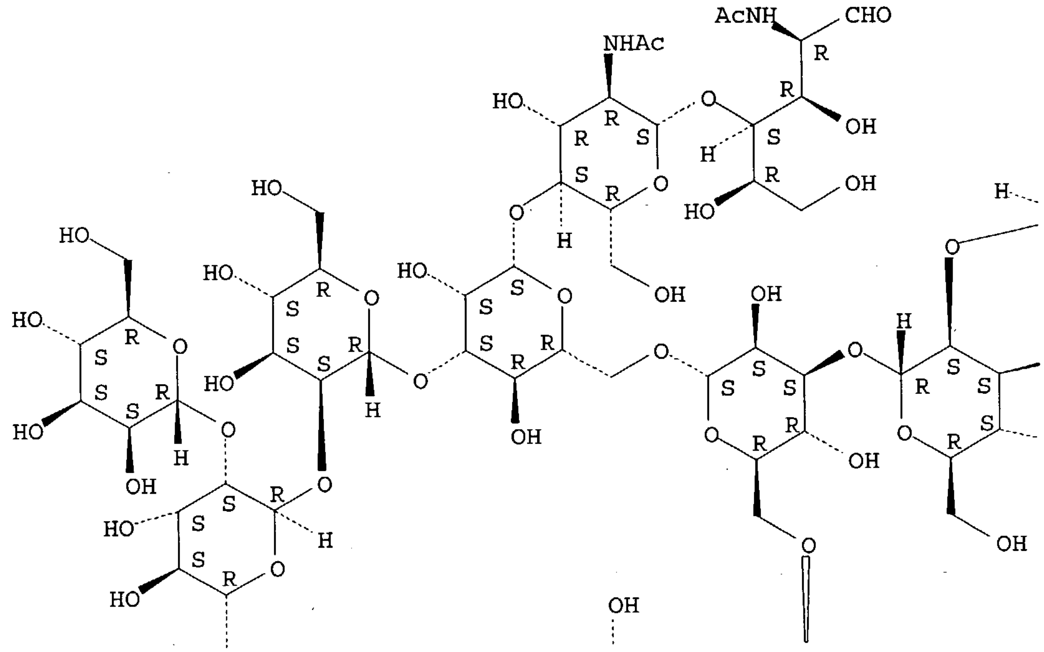
PAGE 2-A



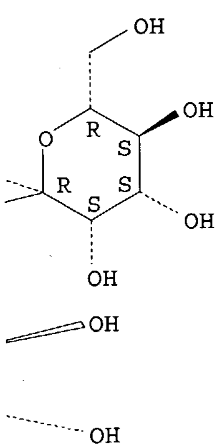
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

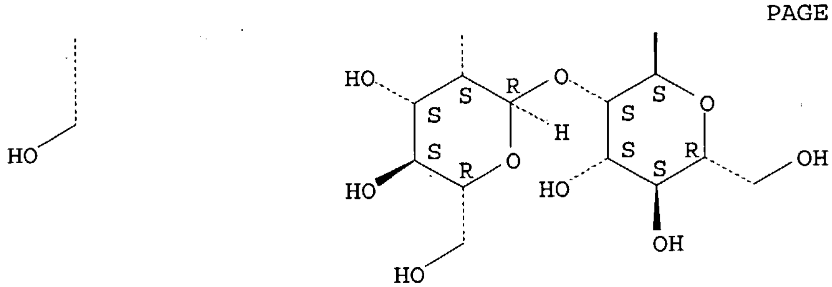
PAGE 1-A



PAGE 1-B



PAGE 2-A

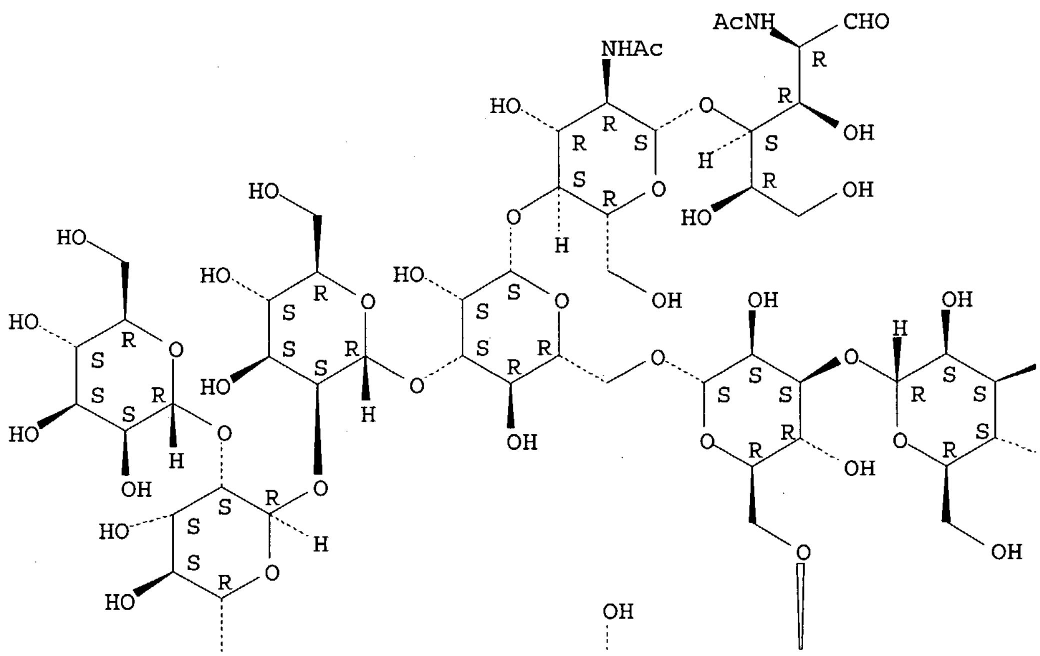


RN 77036-51-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

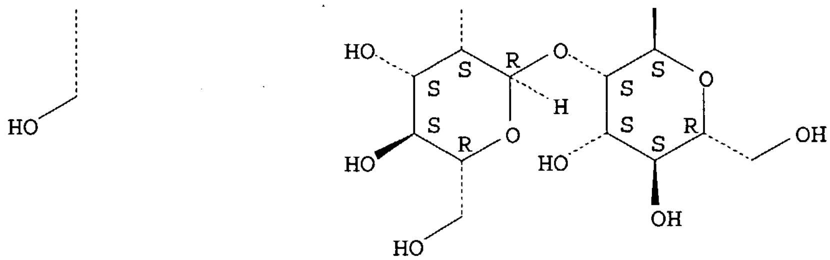
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

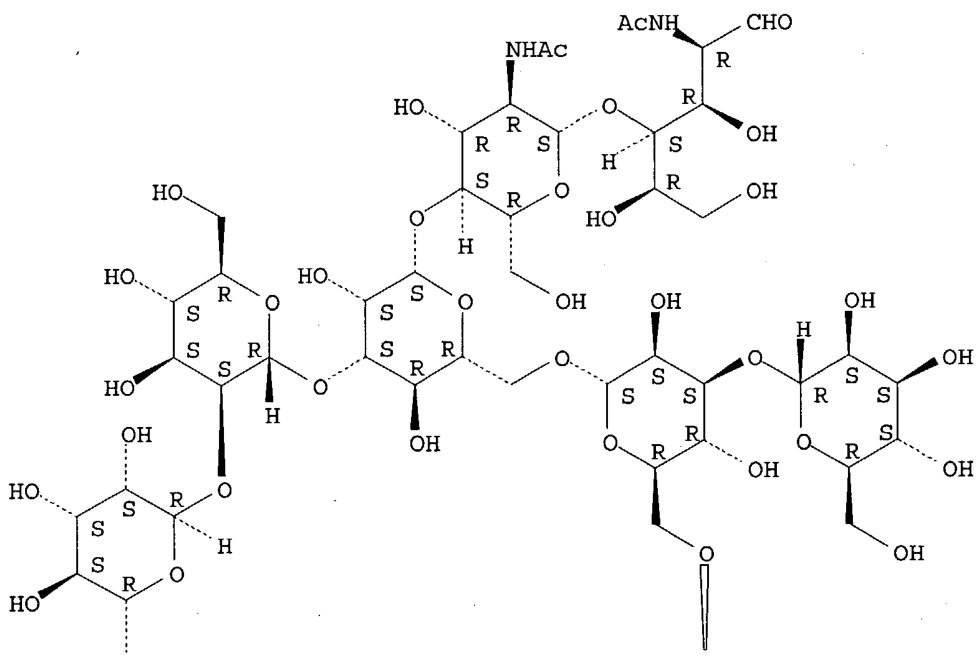
PAGE 2-A



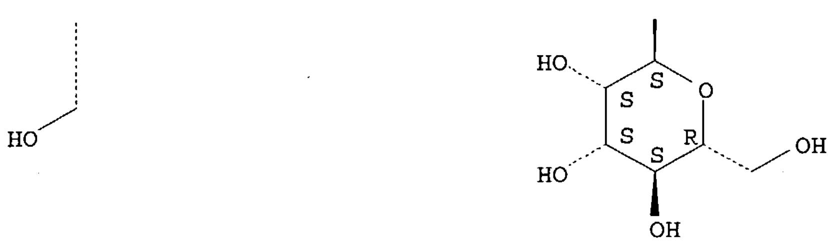
RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

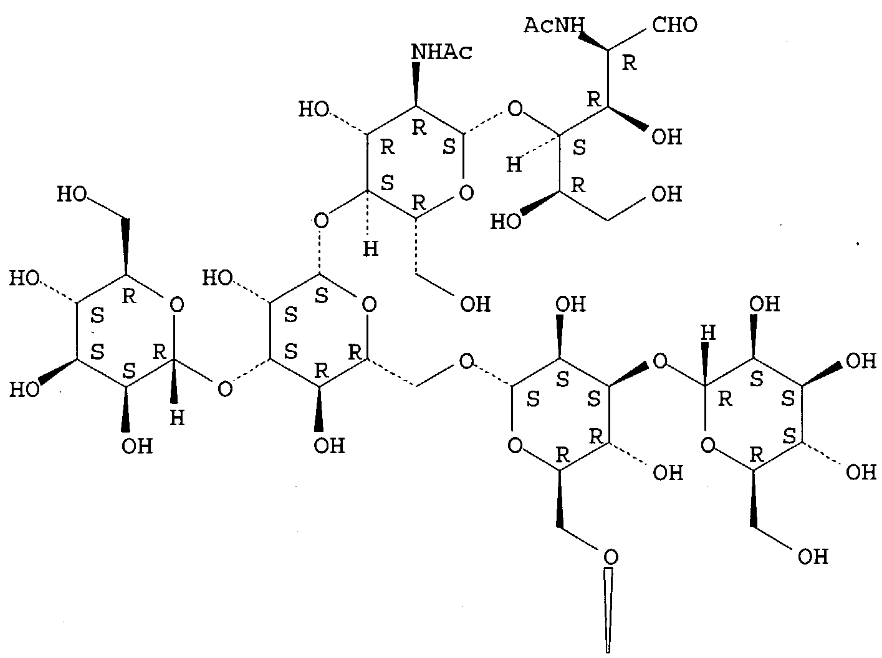


L91 ANSWER 19 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:465340 HCAPLUS
DN 117:65340
ED Entered STN: 23 Aug 1992
TI Structures of sugar chains of the subunits of an α-amylase inhibitor from Phaseolus vulgaris white kidney beans
AU Yamaguchi, Haruki; Funaoka, Hiroyuki; Iwamoto, Hiroyuki
CS Coll. Agric., Univ. Osaka Prefect., Sakai, 591, Japan
SO Journal of Biochemistry (Tokyo, Japan) (**1992**), 111(3), 388-95
CODEN: JOBIAO; ISSN: 0021-924X
DT Journal
LA English
CC 7-3 (Enzymes)
Section cross-reference(s): 33
AB The structures of **asparagine**-linked oligosaccharides in the subunits of an α-amylase inhibitor from the white kidney bean (P. vulgaris) were determined Glycopeptides obtained from each subunit were treated with hydrazine, then N-acetylated. The oligosaccharides thus liberated were labeled with 2-aminopyridine at their reducing ends and purified by gel-permeation, reverse-phase, and size-fractionation HPLC. The structures of seven oligosaccharides from the α-subunit and eight oligosaccharides from the β-subunit were determined by a combination of composition and mol. size analyses, exo- and endoglycosidase digestions, partial acetolysis, and 1H NMR spectroscopy. The major glycan chains in the α-subunit were Manα1-6(Manα1-3)Manα1-6(Manα1-2Manα1-3)-Manβ1-4GlcNAcβ1-4GlcNAc and (Manα1-2)Manα1-6(Manα1-2Manα1-3)Manα1-6(Man-α1-2Manα1-2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAc, while a glycan chain Manα1-6(Man-α1-3)(Xylβ1-2)Manβ1-4GlcNAcβ1-4GlcNAc comprised more than 70% of the sugar moiety of the β-subunit.
ST amylase inhibitor subunit oligosaccharide structure Phaseolus; white kidney bean amylase inhibitor oligosaccharide; kidney bean amylase inhibitor oligosaccharide structure
IT Bean
(amylase inhibitor of, oligosaccharide structure of subunits of)
IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(of amylase inhibitor subunits of white kidney bean)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(amylase-inhibiting, PHA-I, oligosaccharides of α and β subunits, of white kidney bean, structure of N-linked)
IT Oligosaccharides
RL: PRP (Properties)
(branched, **high-mannose**, N-linked, structure of, of amylase inhibitor α and β subunits of white kidney bean)
IT Oligosaccharides
RL: BIOL (Biological study)
(branched, **high-mannose**, xylose-containing, N-linked, structure of, of amylase inhibitor α and β subunits of white kidney bean)
IT 9000-90-2, α-Amylase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitor, oligosaccharide structure of, of white kidney bean)
IT **66091-47-2** **71246-55-4** **77036-51-2**
77355-54-5 **83178-05-6** 110037-52-0 116173-22-9
RL: BIOL (Biological study)
(of amylase inhibitor α and β subunits of white kidney bean)
IT **70858-45-6**
RL: BIOL (Biological study)
(of amylase inhibitor β subunit of white kidney bean)

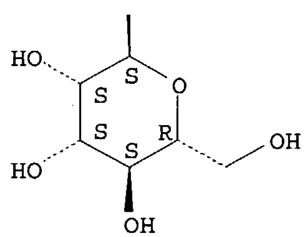
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 83178-05-6
RL: BIOL (Biological study)
(of amylase inhibitor α and β subunits of white kidney bean)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



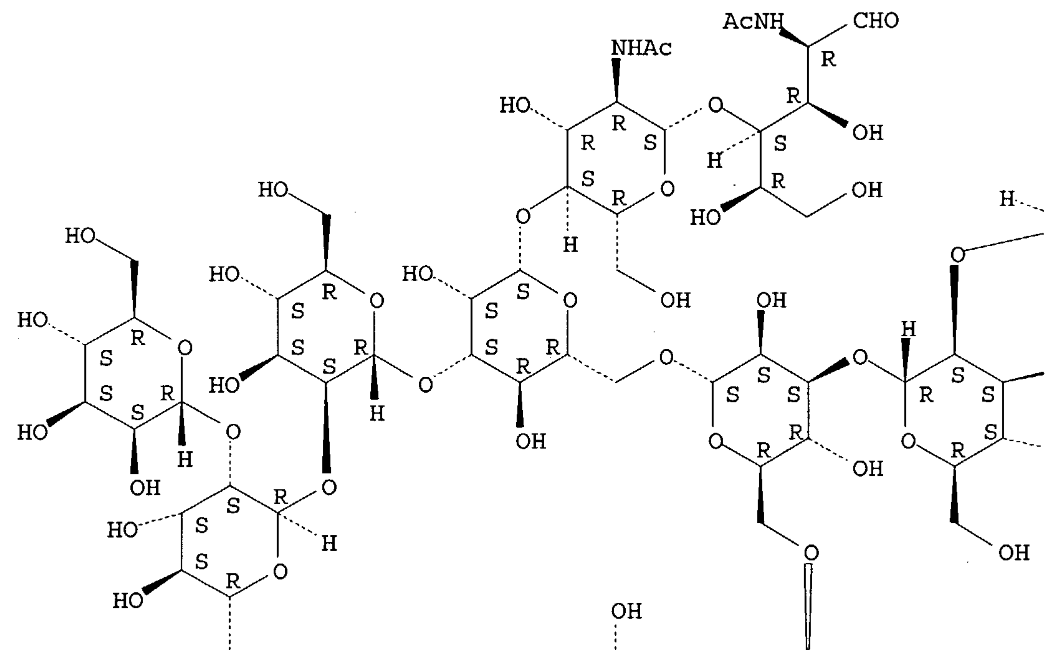
PAGE 2-A



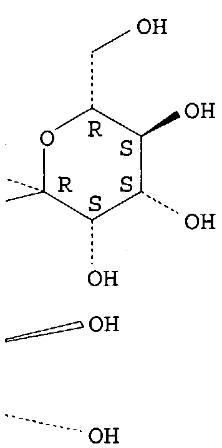
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

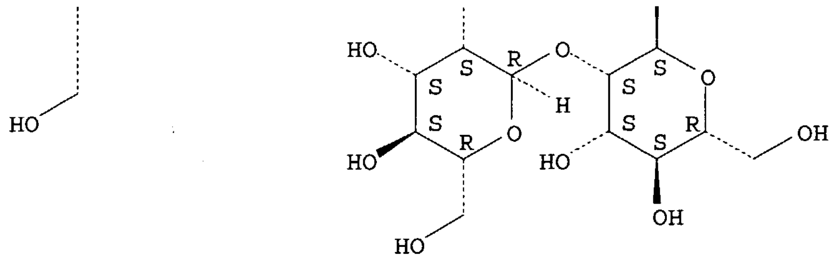
PAGE 1-A



PAGE 1-B



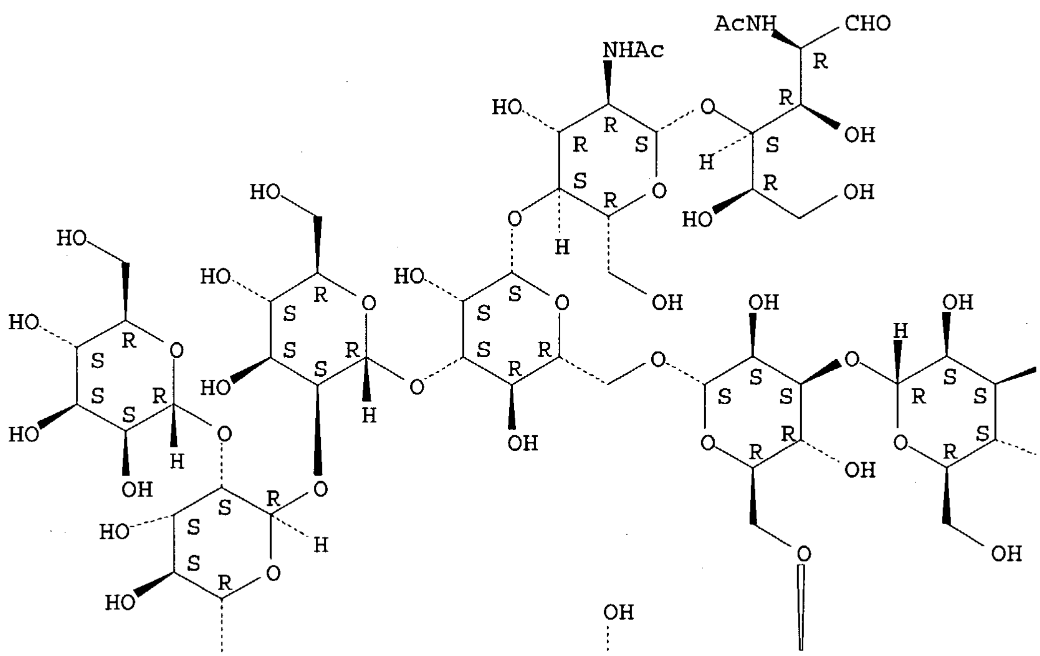
PAGE 2-A



RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

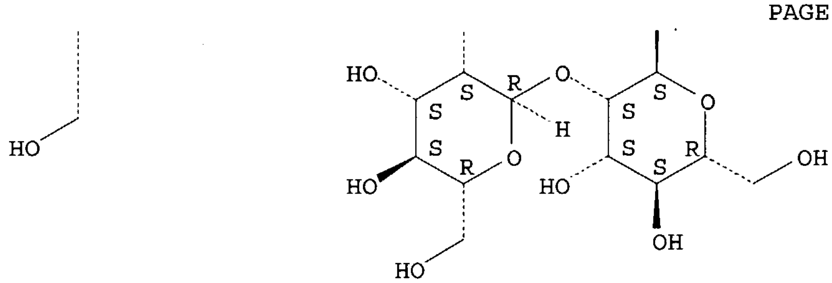
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

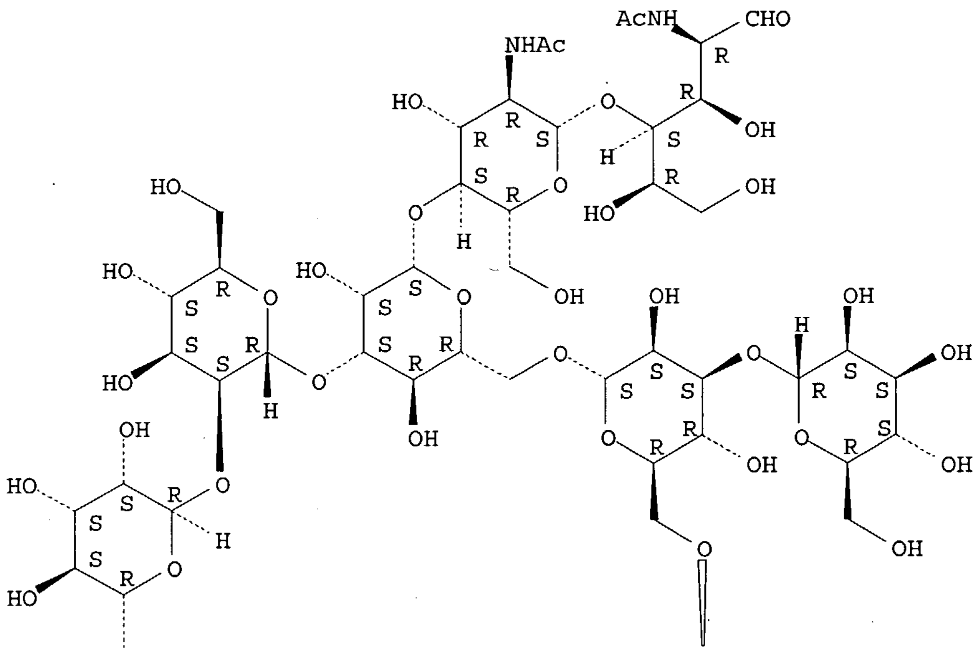
PAGE 2-A



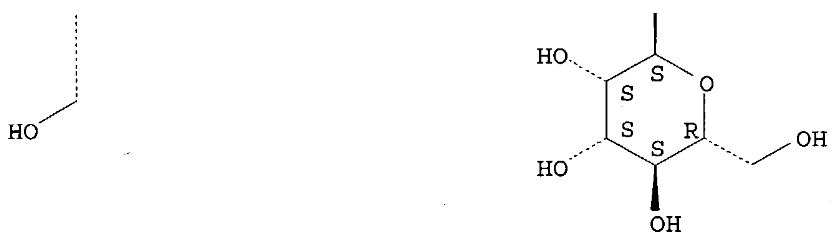
RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



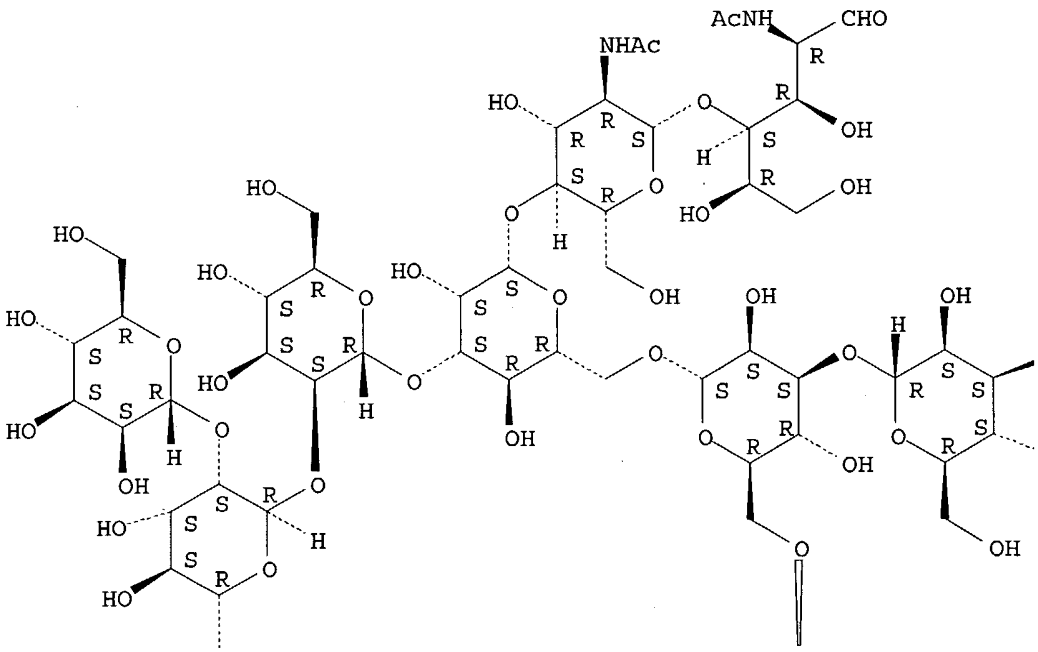
PAGE 2-A



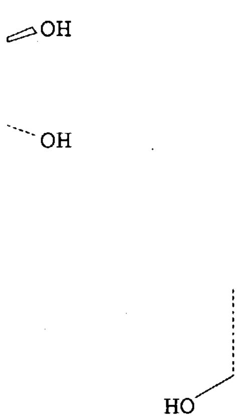
RN 83178-05-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

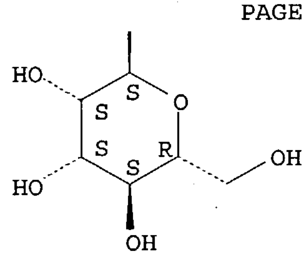
PAGE 1-A



PAGE 1-B

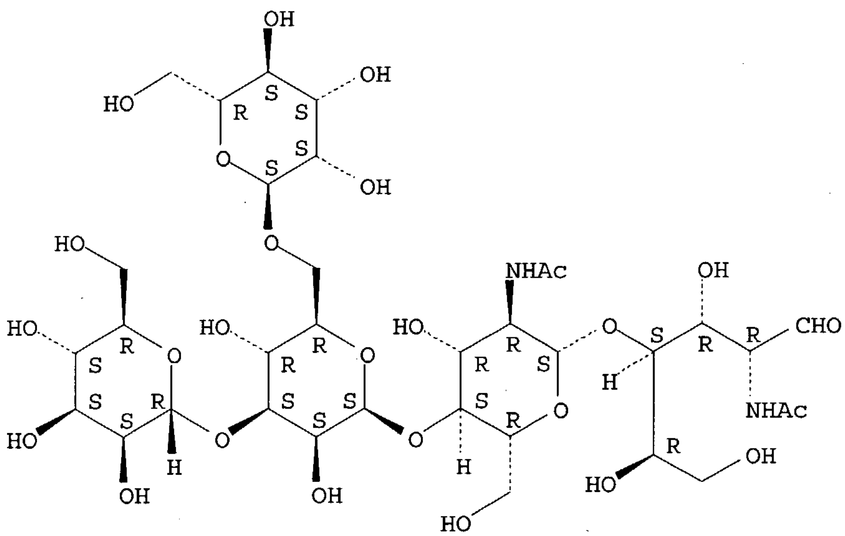


PAGE 2-A



IT 70858-45-6
 RL: BIOL (Biological study)
 (of amylase inhibitor β subunit of white kidney bean)
RN 70858-45-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L91 ANSWER 20 OF 46 HCAPLUS
AN 1992:56946 HCAPLUS
DN 116:56946
ED Entered STN: 21 Feb 1992
TI Structural study of the sugar moieties of monoclonal antibodies secreted by human-mouse hybridoma
AU Tandai, Megumi; Endo, Tamao; Sasaki, Satoshi; Masuho, Yasuhiko; Kochibe, Naohisa; Kobata, Akira
CS Inst. Med. Sci., Univ. Tokyo, Tokyo, 108, Japan
SO Archives of Biochemistry and Biophysics (**1991**), 291(2), 339-48
 CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
CC 15-3 (Immunochemistry)
AB Six monoclonal antibodies, 3 each of human IgG1 and IgG2 subclasses, were obtained from human-mouse hybridomas. Structural study of their **asparagine**-linked sugar chains was performed to elucidate the regulatory mechanism of secreted monoclonal IgG glycosylation. The sugar moieties were quant. released as oligosaccharides from the polypeptide backbone by hydrazinolysis. They were converted into radioactive oligosaccharides by NaB3H4 reduction after N-acetylation. Structural study of each oligosaccharide by lectin affinity column chromatog., sequential exoglycosidase digestion, and methylation anal. indicated that almost all of them were biantennary complex-type sugar chains containing Manα1 → 6(Manα1 → 3)Manβ1 → 4GlcNAcβ1 → 4 (±Fucα1 → 6)GlcNAc as core structures.
 Bisecting N-acetylglucosamine residue, which is present in human IgG but not in mouse IgG, could not be detected at all. The molar ratio of each oligosaccharide from the 6 IgG samples was different. However, no subclass specificity was detected except that all IgG1 contained neutral,

mono-, and disialylated sugar chains, whereas IgG2 did not contain disialylated ones. The molar ratio of N-acetylneuraminic acid to N-glycolylneuraminic acid was also different for each IgG. All 6 IgGs contained monoantennary complex-type and **high mannose** -type oligosaccharides which had never been detected in serum IgGs of various mammals so far investigated. Thus, the processing of **asparagine**-linked sugar chains of IgG is less complete in human-mouse hybridoma than in human or mouse B cells, and the glycosylation machinery of the mouse cells is dominant in the hybrid cells.

ST sugar monoclonal antibody human mouse hybridoma

IT Glycosidation
(of monoclonal antibodies in human-mouse hybridomas, mouse cell genetic dominance in)

IT Oligosaccharides
RL: BIOL (Biological study)
(of monoclonal antibodies, from human-mouse hybridomas, structure of)

IT Hybridoma
(B-cell, monoclonal antibodies from human-mouse, sugar moieties of, structure of)

IT Antibodies
RL: BIOL (Biological study)
(monoclonal, of human-mouse hybridoma, sugar moieties of, structure of)

IT **66091-47-2** 71369-21-6 71496-53-2 78334-43-7 78392-81-1
84808-02-6 84825-26-3 98969-42-7 101971-14-6 103584-68-5
109050-95-5 110387-54-7 110402-12-5 111059-47-3 115973-44-9
RL: PRP (Properties)
(**asparagine**-linked, of monoclonal antibodies from human-mouse hybridomas)

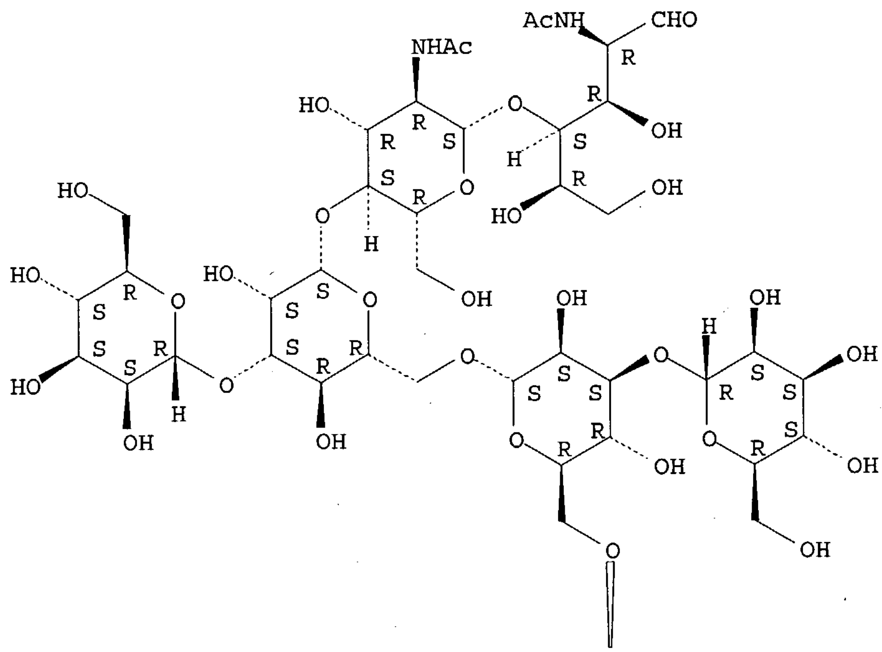
IT **66091-47-2**
RL: PRP (Properties)
(**asparagine**-linked, of monoclonal antibodies from human-mouse hybridomas)

RN 66091-47-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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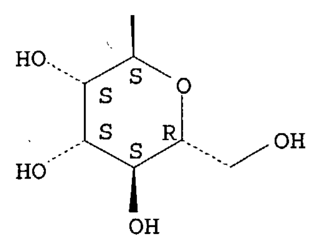


L91 ANSWER 21 OF 46 HCAPLUS
AN 1991:677032 HCAPLUS
DN 115:277032
ED Entered STN: 27 Dec 1991
TI The substrate-specificity of human lysosomal α-D-mannosidase in relation to genetic α-mannosidosis
AU Al Daher, Samer; De Gasperi, Rita; Daniel, Peter; Hall, Nicholas; Warren, Christopher D.; Winchester, Bryan
CS Inst. Child Health, Univ. London, London, WC1N 1EH, UK
SO Biochemical Journal (**1991**), 277(3), 743-51
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
CC 14-14 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 7
AB The specificity of human liver lysosomal α-mannosidase (EC 3.2.1.24) towards a series of oligosaccharide substrates derived from **high -mannose**, complex and hybrid **asparagine**-linked glycans and from the storage products in α-mannosidosis was investigated. The enzyme hydrolyzes all α(1-2)-, α(1-3)- and

α(1-6)-mannosidic linkages in these glycans without a requirement for added Zn2+, albeit at different rates. A major finding of this study is that all the substrates are hydrolyzed by non-random pathways. These pathways were established by determining the structures of intermediates in the digestion mixts. by a combination of HPTLC and HPLC before and after acetolysis. The catabolic pathway for a particular substrate appears to be determined by its structure, raising the possibility that degradation occurs by an uninterrupted sequence of steps within one active site. The structures of the digestion intermediates are compared with the published structures of the storage products in mannosidosis and of intact **asparagine**-linked glycans. Most but not all of the digestion intermediates derived from **high-mannose** glycans have structures found in intact **asparagine**-linked glycans of human glycoproteins or among the storage products in the urine of patients with mannosidosis. However, the relative abundances of these structures suggest that the catabolic pathway is not the same as the processing pathway. In contrast, the intermediates formed from the digestion of oligosaccharides derived from hybrid and complex N-glycans are completely different from any processing intermediates and also from the oligosaccharides of composition Man2-4GlcNAc that account for 80-90% of the storage products in α-mannosidosis. It is postulated that the structures of these major storage products arise from the action of an exo/endo-α(1-6)-mannosidase on the partially catabolized oligomannosides that accumulate in the absence of the main lysosomal α-mannosidase.

ST mannosidase oligosaccharide substrate specificity mannosidosis

IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing and **asparagine**-linked, α-mannosidase reactions with, specificity of, in humans, mannosidosis in relation to)

IT Liver, composition
(α-mannosidase of lysosomes of, oligosaccharide substrate-specificity of, in humans, mannosidosis in relation to)

IT 9025-42-7, α-D-Mannosidase
RL: BIOL (Biological study)
(deficiency of, α-mannosidosis from, α-mannosidase reaction specificity with various mannose-containing **asparagine**-linked oligosaccharide substrates in humans in relation to)

IT 50722-98-0 52134-33-5 52134-34-6 60177-38-0 **66091-47-2** 70158-31-5 70158-32-6 70158-33-7 **70858-45-6** 74385-50-5 74399-85-2 76260-38-3 83259-19-2 95041-21-7 100634-95-5 100634-96-6 106788-52-7 126673-15-2 126673-17-4
RL: BIOL (Biological study)
(α-mannosidase reaction with, specificity of, in humans, mannosidosis in relation to)

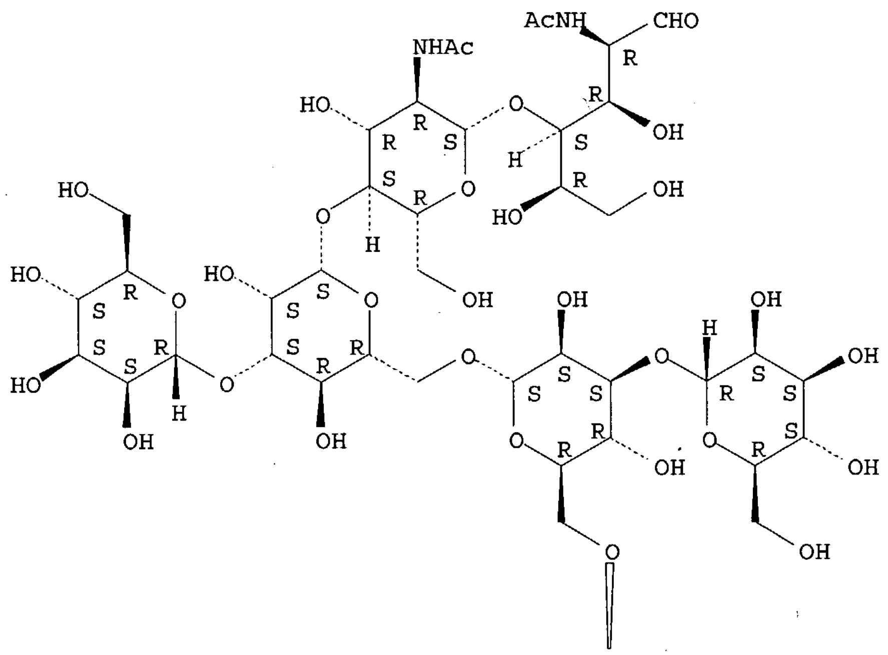
IT **66091-47-2 70858-45-6**
RL: BIOL (Biological study)
(α-mannosidase reaction with, specificity of, in humans, mannosidosis in relation to)

RN 66091-47-2 HCAPLUS

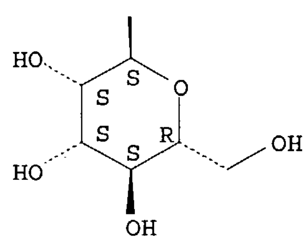
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

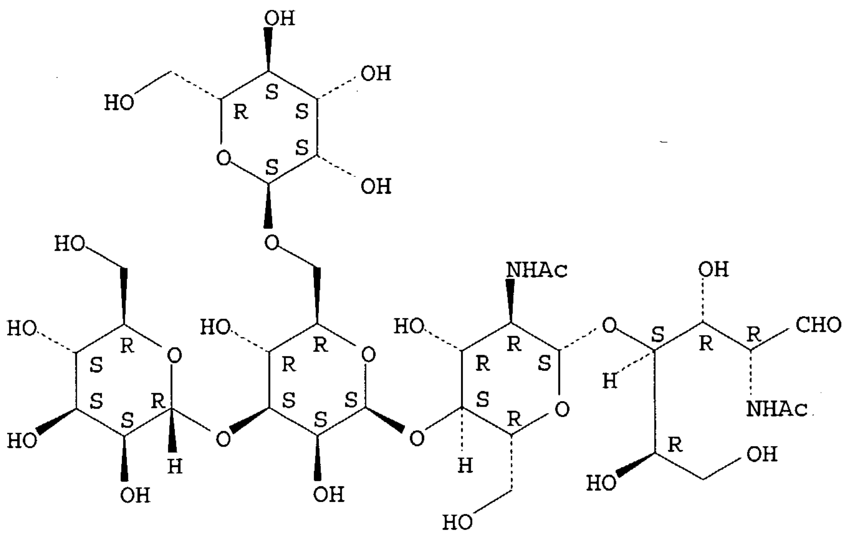


PAGE 2-A



RN 70858-45-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L91 ANSWER 22 OF 46 HCAPLUS
AN 1991:601288 HCAPLUS
DN 115:201288
ED Entered STN: 15 Nov 1991
TI α-Mannosidase-catalyzed trimming of **high-mannose** glycans in noninfected and baculovirus-infected Spodoptera frugiperda cells (IPLB-SF-21AE). A possible contributing regulatory mechanism for assembly of complex-type oligosaccharides in infected cells
AU Davidson, Donald J.; Bretthauer, Roger K.; Castellino, Francis J.
CS Dep. Chem. Biochem., Univ. Notre Dame, Notre Dame, IN, 46556, USA
SO Biochemistry (**1991**), 30(41), 9811-15
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 6-1 (General Biochemistry)
Section cross-reference(s): 7, 14
AB Incubation of a S. frugiperda (IPLB-SF-2 AE) cell extract with the oligosaccharide Man9GlcNAc2, the aglucosyl derivative of the glycan that is normally transferred from the dolichol carrier to the relevant **Asn** residue in the nascent protein, results in its trimming to Man6GlnNAc2, an intermediate that is relatively stable to further α-D-mannosidase action in these cells. On the other hand, incubation of a similar extract from cells that had been infected for various times with a wild-type baculovirus (Autographa californica nuclear polyhedrosis virus) or a recombinant baculovirus (r-BAC)/human plasminogen (HPg) construct employed for expression of HPg led to rapid trimming of Man6GlcNAc2 to Man5GlcNAc2 and Man3GlnNAc2. These latter reactions displayed temporal effects, in that an enhancement of this latter trimming process occurred as a function of the time of infection of the cells with the wild-type and recombinant viral constructs. It was previously demonstrated that the nature of the oligosaccharide assembled on Asn289 of HPg expressed in several lepidopteran insect cell lines was dependent on the time of infection of the cells with r-BAC/HPg and that the amount of complex glycan found on this recombinant protein increased with an increase in infection times. The present study provides a significant contributing explanation for these findings, in that the infective process lead to an enhancement of an α-D-mannosidase activity that catalyzes trimming of the Man6GlcNAc2 that accumulates in noninfected cells, to Man5GlcNAc2, the preferred substrate for GlcNAc transferase I. This latter process is requisite for further processing of **high-mannose** oligosaccharide to

complex and hybrid glycans. The control of Man6GlcNAc2 trimming is one potentially important determinant as to whether complex and/or hybrid glycans will be assembled on glycoproteins.

ST mannosidase glycan trimming infected insect cell; baculovirus infected insect cell mannosidase

IT Animal cell line
(IPLB-SF-21AE, mannosidase from, **high-mannose** glycans trimming by, baculovirus infection effect on, complex-type oligosaccharide assembly in relation to)

IT Glycoproteins, biological studies
RL: BIOL (Biological study)
(glycans assembly on, **high-mannose** glycans trimming by mannosidase from baculovirus-infected lepidopteran insect cells in relation to)

IT Spodoptera frugiperda
(mannosidase from cell line of, **high-mannose** glycans trimming by, baculovirus infection effect on)

IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, trimming of, by mannosidase from lepidopteran insect cells, baculovirus infection effect on, complex-type oligosaccharide assembly in relation to)

IT Virus, animal
(Autographa californica nuclear polyhedrosis, infection with, of lepidopteran insect cells, mannosidase trimming of **high-mannose** glycans in, complex-type oligosaccharide assembly in relation to)

IT 9001-91-6, Plasminogen
RL: BIOL (Biological study)
(glycans assembly on recombinant human, **high-mannose** glycans trimming by mannosidase from baculovirus-infected lepidopteran insect cells in relation to)

IT 9025-42-7, α-D-Mannosidase
RL: BIOL (Biological study)
(**high-mannose** glycans trimming by, in baculovirus-infected lepidopteran insect cells, complex-type oligosaccharide assembly in relation to)

IT **71246-55-4 77355-54-5**
RL: BIOL (Biological study)
(trimming of, by α-mannosidase from baculovirus-infected lepidopteran insect cells, complex-type oligosaccharide assembly in relation to)

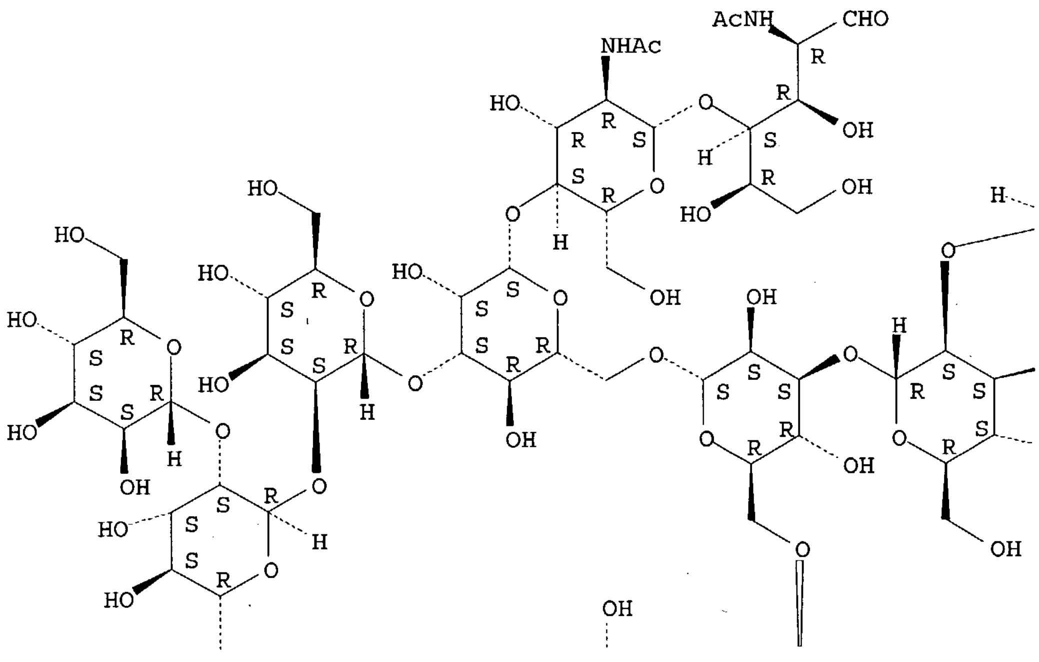
IT **71246-55-4 77355-54-5**
RL: BIOL (Biological study)
(trimming of, by α-mannosidase from baculovirus-infected lepidopteran insect cells, complex-type oligosaccharide assembly in relation to)

RN 71246-55-4 HCAPLUS

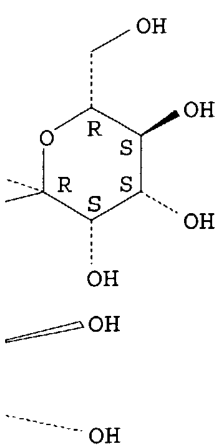
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

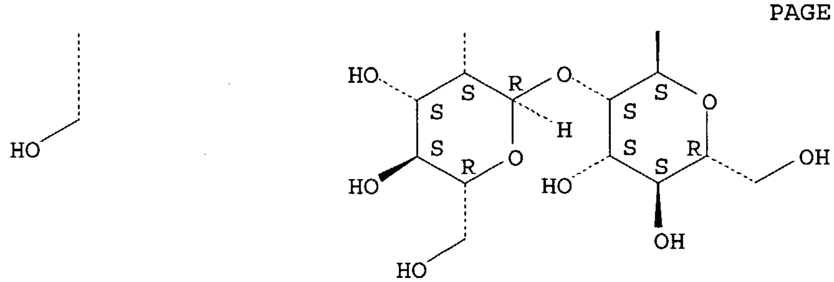
PAGE 1-A



PAGE 1-B



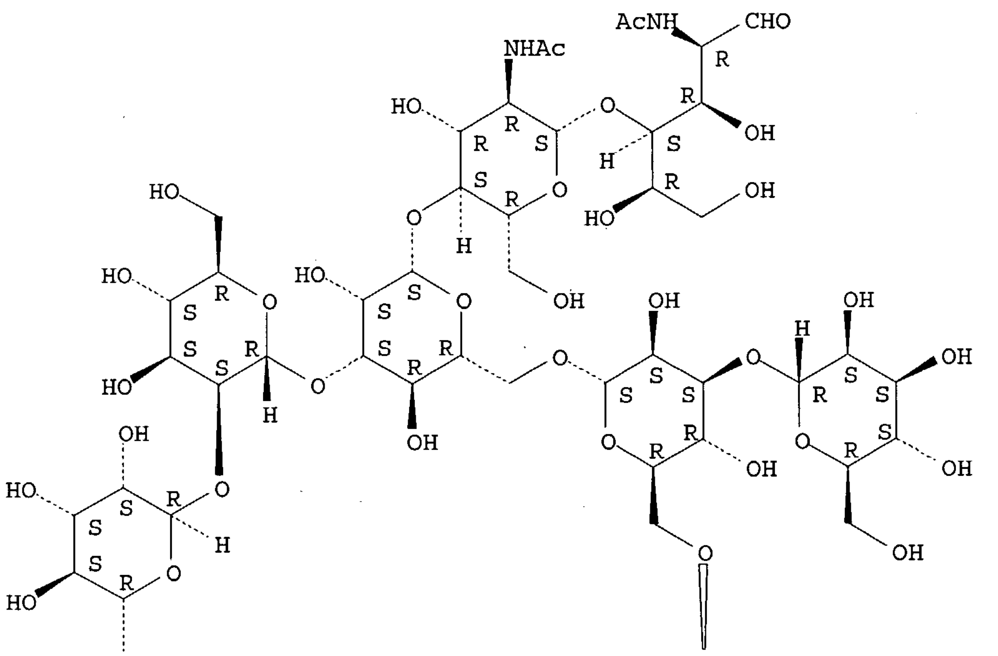
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

L91 ANSWER 23 OF 46 HCAPLUS
AN 1991:579860 HCAPLUS
DN 115:179860
ED Entered STN: 01 Nov 1991
TI Structures of the **asparagine**-289-linked oligosaccharides assembled on recombinant human plasminogen expressed in a Mamestra brassicae cell line (IZD-MB0503)
AU Davidson, Donald J.; Castellino, Francis J.
CS Dep. Chem. Biochem., Univ. Notre Dame, Notre Dame, IN, 46556, USA
SO Biochemistry (**1991**), 30(27), 6689-96

CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 12-6 (Nonmammalian Biochemistry)
Section cross-reference(s): 7

AB In this report, a previous investigation was extended in which it was demonstrated for the first time that lepidopteran insect (Spodoptera frugiperda) cells (IPLB-SF-21AE) were capable of assembling N-linked complex oligosaccharide on a human protein (plasminogen), the cDNA of which had been inserted into these cells via recombinant DNA technol. with a baculovirus vector. To investigate whether a more general capability of lepidopteran insect cells to produce complex oligosaccharide existed, and to identify the chemical nature of the types of oligosaccharides that such insect cells were able to assemble, the authors infected M. brassicae (IZD-MBO503) cells for 48 h with a recombinant (r) baculovirus containing the [R561E]human plasminogen (HPg) cDNA and characterized the nature of the glycopeptidase F (GF) released N-linked oligosaccharides contained on **asparagine**-289 of the r-HPg expressed by these cells. Approx. 63% of the total N-linked oligosaccharides were of the complex type, with bisialo-biantennary (28%), asialo-biantennary (7%), fucosylated bisialo-biantennary (25%), and fucosylated asialo-biantennary (3%) oligosaccharides representing the major complex-type carbohydrate species. The remainder of the oligosaccharides were of the **high-mannose** type, with (mannose)9(N-acetylglucosamine)2 (22%), (mannose)5(N-acetylglucosamine)2 (13%), and (mannose)3(N-acetylglucosamine)2 (2%) representing the major oligosaccharides observed Investigations with r-HPg expression in another lepidopteran insect cell line, Manduca sexta (CM-1), also clearly demonstrated that (α2,6)-linked sialic acid was present on the purified protein, suggesting that the ability of insect cells to assemble complex-type oligosaccharide on r-HPg is general in nature. These studies demonstrate that despite the observations that endogenous insect cell proteins apparently do not contain N-linked complex oligosaccharide, the glycosyltransferase genes required for assembly of such structures are present in these cells and are capable of being utilized under proper conditions. The resulting alteration of oligosaccharide processing appears to be a general property of lepidopteran insect cells, which is effected in this case by infection with a recombinant baculovirus containing the cDNA for HPg. This system may serve as a general probe for elucidation of some of the regulatory factors governing protein glycosylation.

ST Mamestra **asparagine** oligosaccharide recombinant plasminogen; insect **asparagine** oligosaccharide recombinant plasminogen; IZD MBO503 oligosaccharide recombinant plasminogen; baculovirus infection insect cell oligosaccharide processing

IT Animal cell line
(IZD-MBO503, **asparagine**-linked complex oligosaccharide assembly on human recombinant plasminogen by cells of, with baculovirus vector)

IT Insect
Mamestra brassicae
(**asparagine**-linked complex oligosaccharide assembly on human recombinant plasminogen by cells of, with baculovirus vector)

IT Oligosaccharides
RL: BIOL (Biological study)
(assembly of, on human recombinant plasminogen by insect cells with baculovirus vector)

IT Glycosidation
(by insect cells, with baculovirus vector, mechanism of)

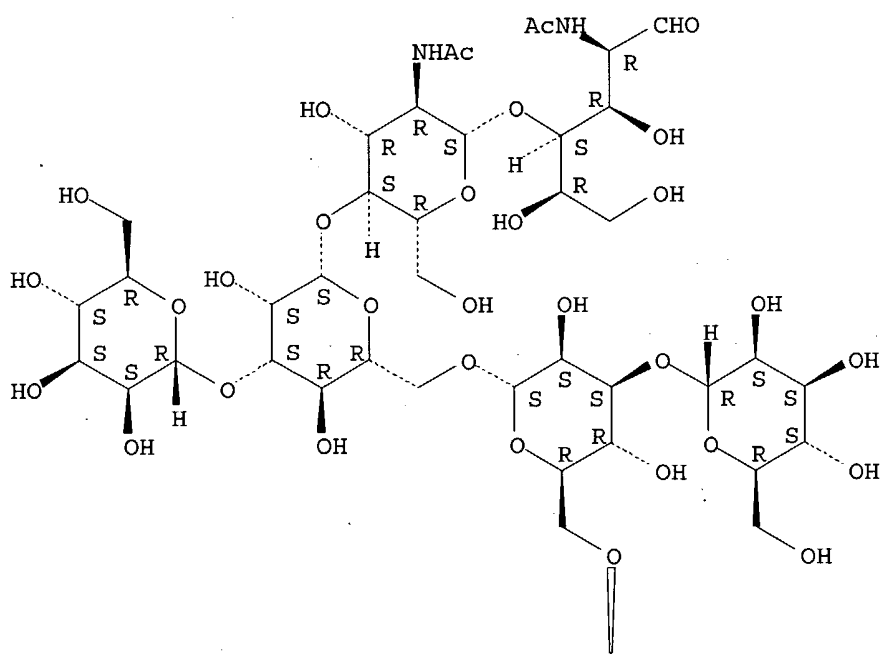
IT Manduca sexta
(complex oligosaccharide assembly by cells of, with baculovirus vector)

IT Glycoproteins, biological studies
RL: FORM (Formation, nonpreparative)

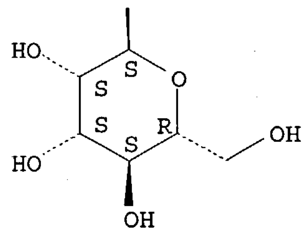
(formation of, in insect cells with baculovirus vector)
IT Virus, animal
(baculo-, **asparagine**-linked complex oligosaccharide assembly by insect cells infected with human plasminogen cDNA in, in culture)
IT 9001-91-6, Plasminogen **66091-47-2** **71246-55-4**
71496-53-2 71496-55-4 78392-81-1 79295-70-8
RL: FORM (Formation, nonpreparative)
(formation of, by insect cells with baculovirus vector containing human plasminogen cDNA)
IT **70858-45-6**
RL: FORM (Formation, nonpreparative)
(formation of, in insect cells expressing recombinant plasminogen)
IT **66091-47-2** **71246-55-4**
RL: FORM (Formation, nonpreparative)
(formation of, by insect cells with baculovirus vector containing human plasminogen cDNA)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

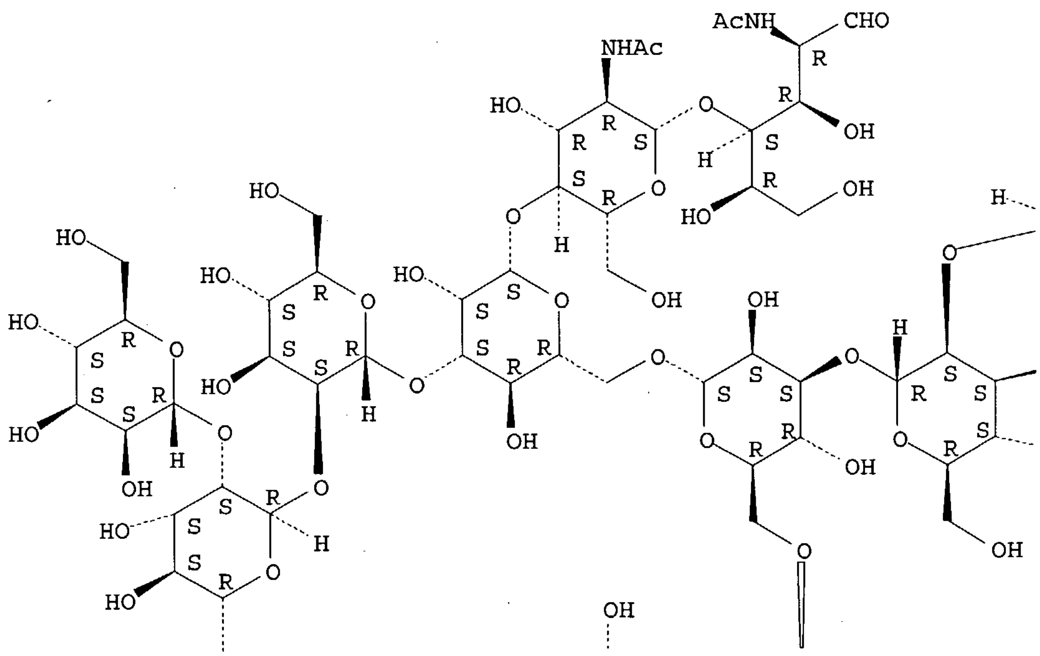


RN 71246-55-4 HCAPLUS

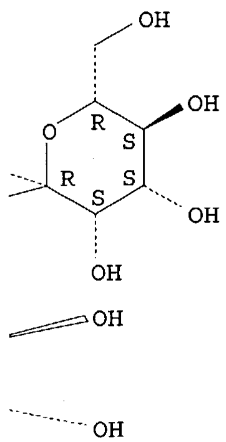
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

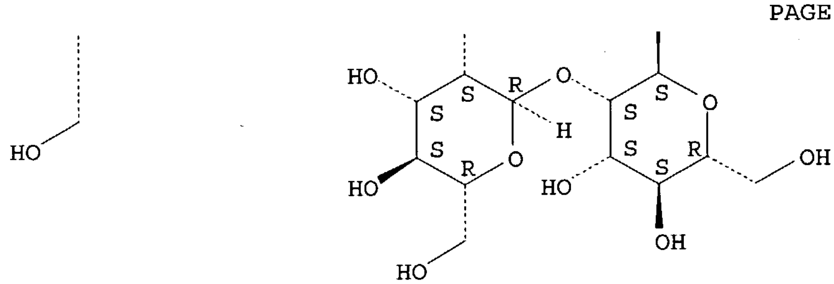
PAGE 1-A



PAGE 1-B

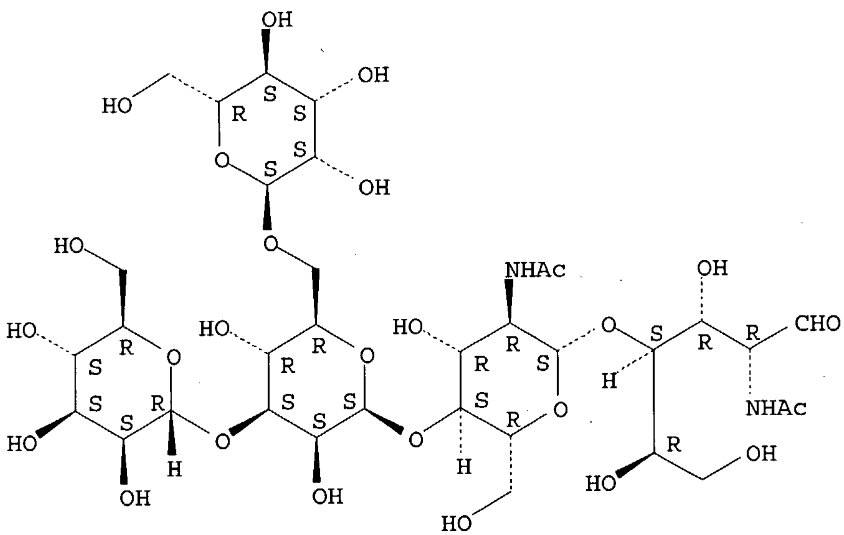


PAGE 2-A



IT 70858-45-6
RL: FORM (Formation, nonpreparative)
(formation of, in insect cells expressing recombinant plasminogen)
RN 70858-45-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L91 ANSWER 24 OF 46 HCAPLUS

AN 1991:444523 HCAPLUS

DN 115:44523

ED Entered STN: 10 Aug 1991

TI Heterogeneity of the complex N-linked oligosaccharides at specific glycosylation sites of two secreted carrot glycoproteins

AU Sturm, Arnd

CS Friedrich Miescher Inst., Basel, CH-4002, Switz.

SO European Journal of Biochemistry (**1991**), 199(1), 169-79
CODEN: EJBCAI; ISSN: 0014-2956

DT Journal

LA English

CC 6-3 (General Biochemistry)
Section cross-reference(s): 7, 11, 34

AB The N-linked glycans from the 52/54-kDa medium protein and cell wall β-fructosidase, two glycoproteins secreted by carrot suspension culture cells, were characterized. Carrot wells were labeled with [3H]glucosamine or [3H]fucose. The 52/54-kDa medium protein was isolated form the culture medium and β-fructosidase from cell walls. The purified proteins were digested with trypsin and glycopeptides were isolated and sequenced. Glycans obtained from individual glycopeptides were separated by gel filtration chromatog. and characterized by Con A chromatog. by treatments with exoglycosidases and by sugar composition anal. The 52/54-kDa medium protein and cell wall β-fructosidase have one **high-mannose**-type glycan similar to those from yeast and animal glycoproteins. In addition, the 52/54-kDa medium protein has three complex-type and cell wal β-fructosidase two complex-type glycans per polypeptide. The complex-type glycans isolated from individual glycosylation sites are fairly large and very heterogeneous. The smallest of these glycans has the structure [Xyl](Man)3[Fuc](GlcNAc]2Asn (square brackets indicating branching) whereas the larger ones carry addnl. sugars like terminal N-acetylglucosamine and possibly rhamnose and arabinose in the case of the 52/54-kDa medium protein and only arabinose in the case of cell wall β-fructosidase. These terminal sugars are linked to the α-mannose residues of the glycan cores. The 52/54-kDa medium protein is secreted with large and homogeneous complex glycans, their heterogeneity originates from slow processing after secretion. The complex glycans from cell wall β-fructosidase are processed before the enzyme is integrated into the cell wall.

ST glycoprotein oligosaccharide heterogeneity secretion carrot; protein 52

54kDa oligosaccharide carrot; fructosidase beta oligosaccharide carrot

IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(52,000-54,000-mol.-weight, oligosaccharides linked to **asparagine** of, structural heterogeneity of, of carrot cells)

IT Oligosaccharides
RL: BIOL (Biological study)
(complex-type, of fructosidase and 52,000/54,000-mol.-weight glycoprotein, of carrot cell, structures of)

IT Carrot
(fructosidase and 52,000/54,000-mol.-weight glycoprotein of, structural heterogeneity of oligosaccharides of)

IT Cell wall
(fructosidase of, of carrot, structural heterogeneity of oligosaccharides of)

IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(of fructosidase and 52,000/54,000-mol.-weight glycoprotein, of carrot cell)

IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of fructosidase and 52,000/54,000-mol.-weight glycoprotein, of carrot cell, structures of)

IT Biological transport
(secretion, of 52,000/54,000-mol.-weight glycoprotein, by carrot cell, oligosaccharide moiety processing after)

IT 58-86-6, Xylose, biological studies 147-81-9, Arabinose 2438-80-4, Fucose 3458-28-4, Mannose 7512-17-6, N-Acetylglucosamine **134886-83-2** 134886-84-3
RL: BIOL (Biological study)
(of fructosidase and 52,000/54,000-mol.-weight glycoprotein, of carrot cell)

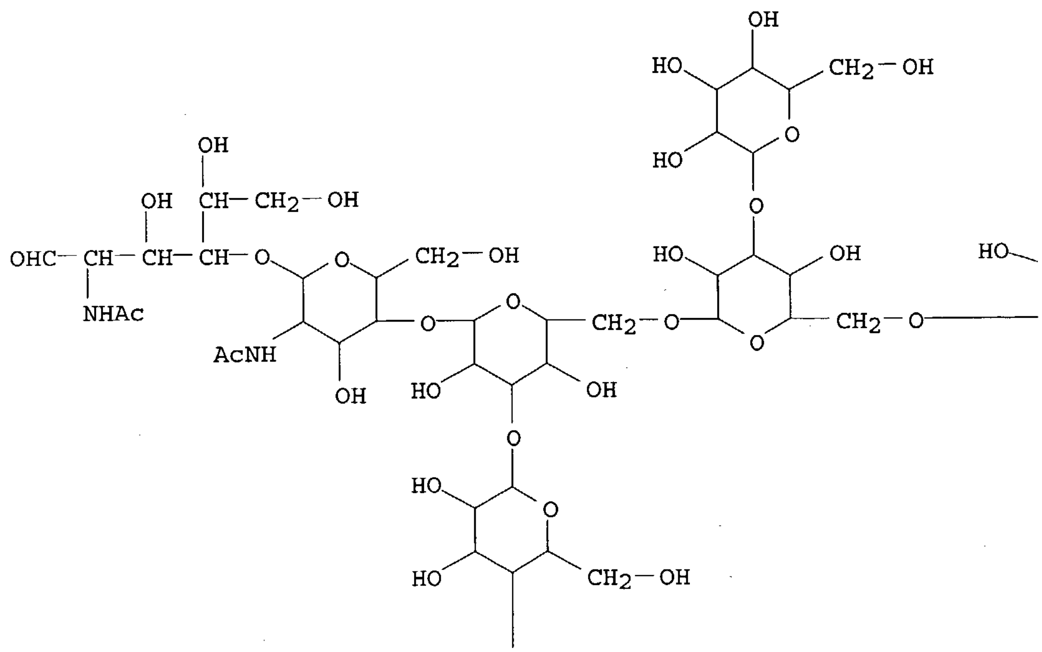
IT 9001-57-4, β-Fructosidase
RL: BIOL (Biological study)
(oligosaccharides linked by **asparagines** of, of carrot cell wall, structural heterogeneity of)

IT **134886-83-2**
RL: BIOL (Biological study)
(of fructosidase and 52,000/54,000-mol.-weight glycoprotein, of carrot cell)

RN 134886-83-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→4)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→4)-O-α-D-mannopyranosyl-(1→4)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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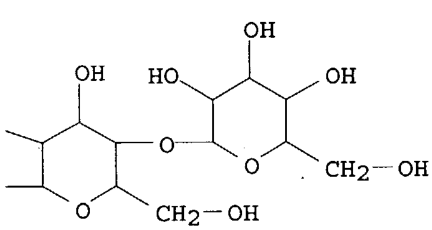

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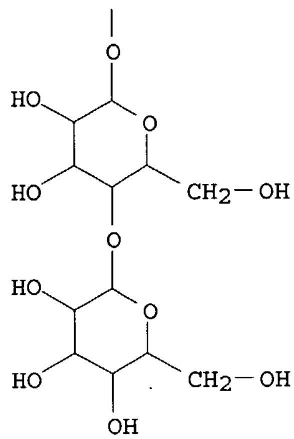


L91 ANSWER 25 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:162076 HCAPLUS
DN 114:162076
ED Entered STN: 03 May 1991
TI Structural analysis of the glycoprotein allergen Art v II from the pollen of mugwort (Artemisia vulgaris L.)
AU Nilsen, Bente M.; Sletten, Knut; Smestad Paulsen, Berit; O'Neill, Malcolm; Van Halbeek, Herman
CS Dep. Pharm., Univ. Oslo, Oslo, Norway
SO Journal of Biological Chemistry (**1991**), 266(4), 2660-8
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 15-2 (Immunochemistry)
AB The glycoprotein allergen Art v II, from the pollen of mugwort (A. vulgaris L.) was treated with peptide:N-glycosidase F (PNGase F) to release **asparagine**-linked oligosaccharides. The oligosaccharides were isolated by gel permeation chromatog. and their structures determined by 500-MHz 1H NMR spectroscopy, fast atom bombardment-mass spectrometry, and high-pH anion-exchange chromatog. The **high-mannose** oligosaccharides Man5GlcNAc2, Man6GlcNAc2, Man7GlcNAc2, Man8GlcNAc2, and Man9GlcNAc2 were present in the ratios 2:49:19:24:6 and accounted for all the **asparagine**-linked oligosaccharides released from Art v II by PNGase F. The N-terminal amino acid sequences of Art v II and of four peptides generated by cyanogen bromide cleavage of deglycosylated Art v II were determined The first 30 amino acid residues of Art v II did not contain any potential N-glycosylation sites. One potential N-glycosylation site was identified in one of the CNBr fragments. The native protein conformation was shown by ELISA inhibition assays to be essential for the binding of rabbit IgG to Art v II and for the binding of human IgE to the major IgE-binding epitope(s) in this allergen. At least one minor IgE-binding epitope still bound IgE after denaturation of the allergen. Removal of the **high-mannose** chains from denatured Art v II had no effect on the binding of human IgE to the minor IgE-binding epitope(s).
ST mugwort allergen carbohydrate structure; Artemisia allergen carbohydrate structure
IT Artemisia vulgaris
(allergen Art v II of pollen of, structure of carbohydrate chains of)
IT Pollen
(allergen Art v II of, structure of carbohydrate chains of, of mugwort)
IT Protein sequences

(of allergen Art v II N-terminus, of mugwort)

IT Oligosaccharides
RL: BIOL (Biological study)
(glucosamine-mannose-containing, branched, of allergen Art v II, of mugwort)

IT Allergens
RL: BIOL (Biological study)
(Art v II (Artemisia vulgaris, II), structure of carbohydrate chains of and N-terminus of, of mugwort pollen)

IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 83178-05-6
RL: BIOL (Biological study)
(of allergen Art v II, of mugwort)

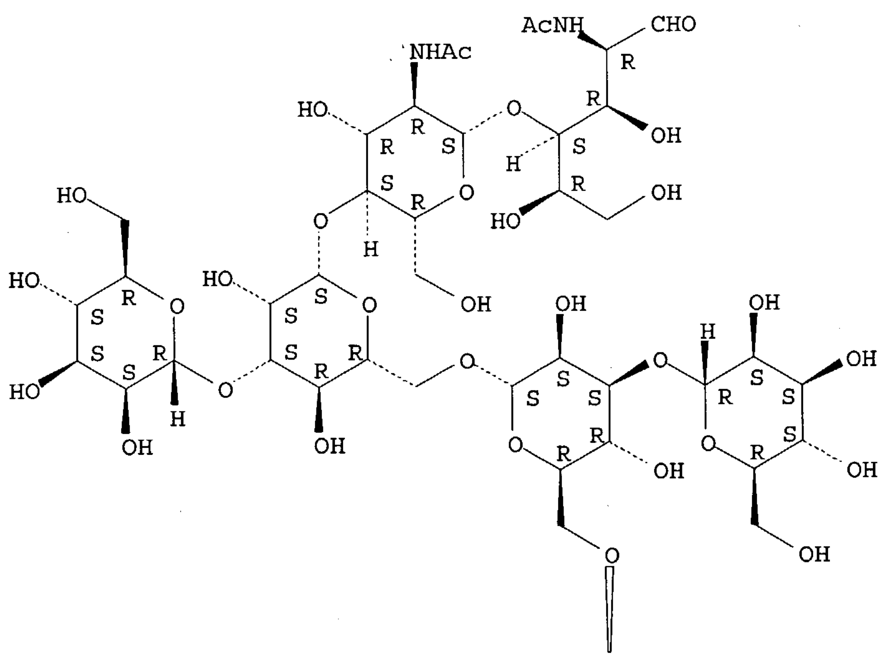
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 83178-05-6
RL: BIOL (Biological study)
(of allergen Art v II, of mugwort)

RN 66091-47-2 HCAPLUS

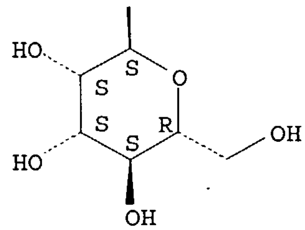
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



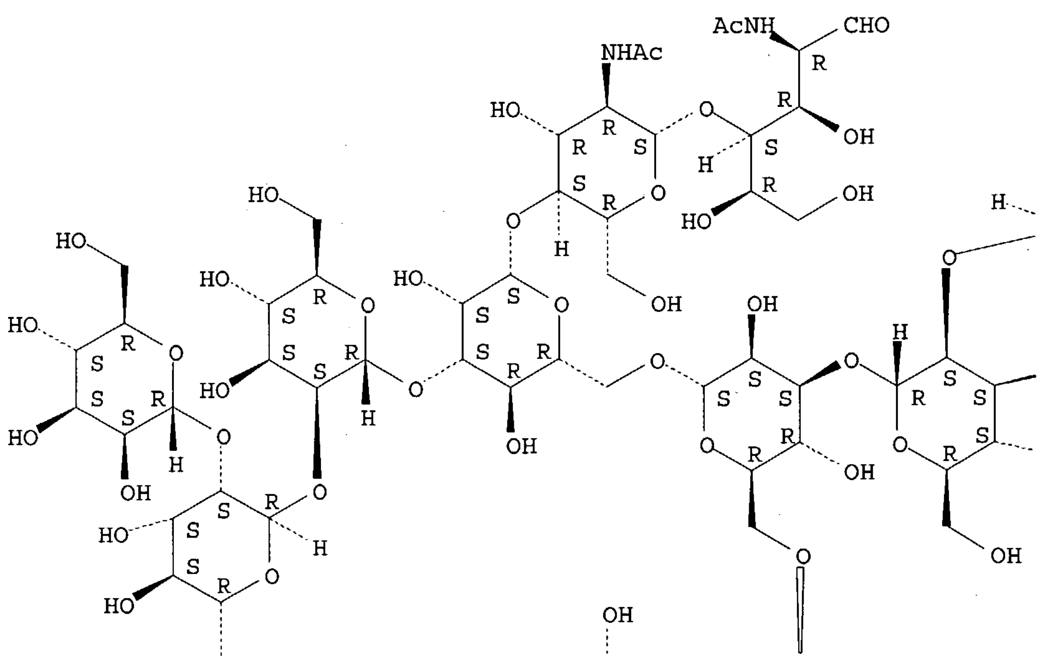
PAGE 2-A



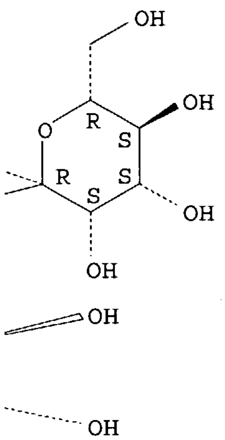
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

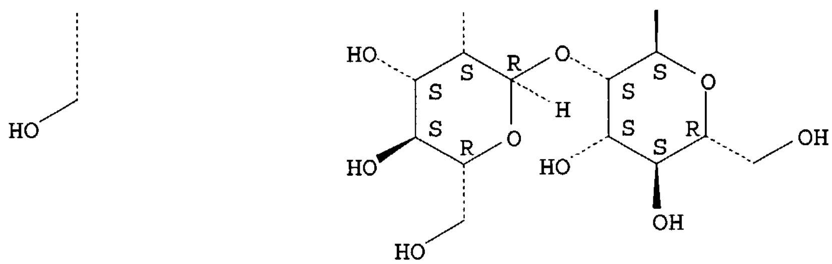
PAGE 1-A



PAGE 1-B



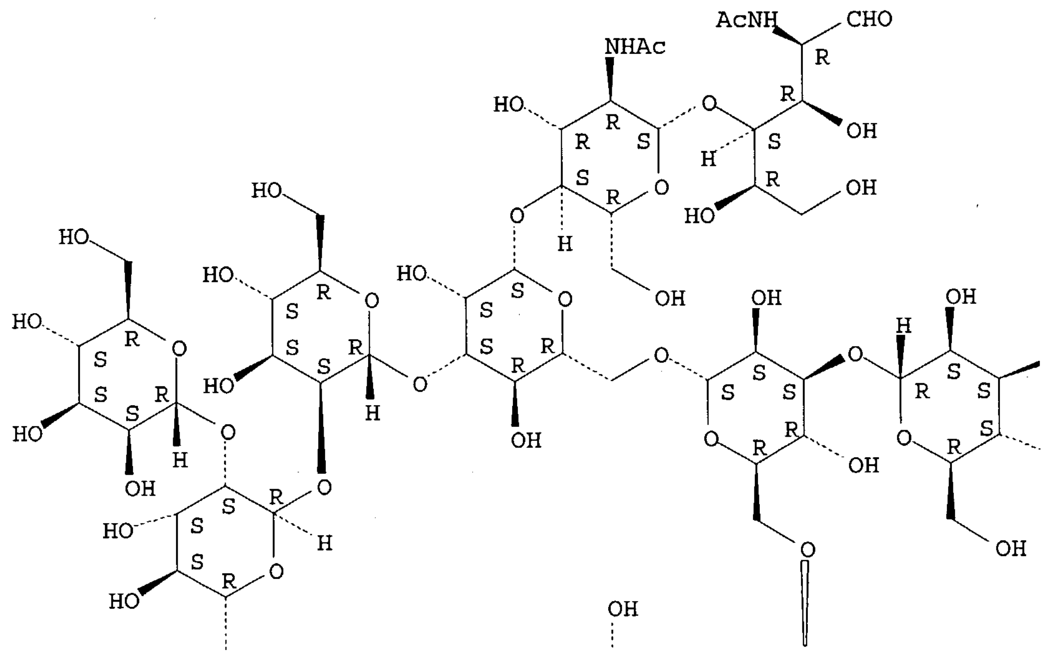
PAGE 2-A



RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

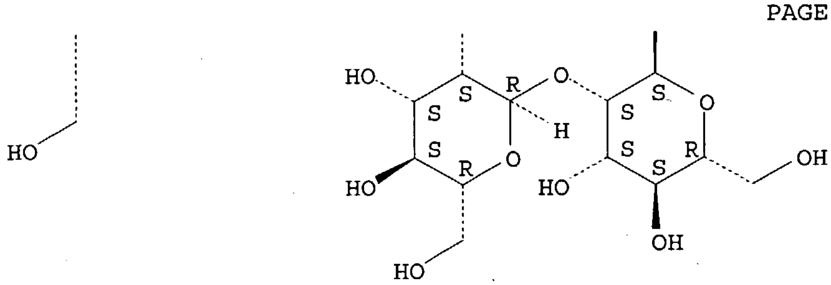
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

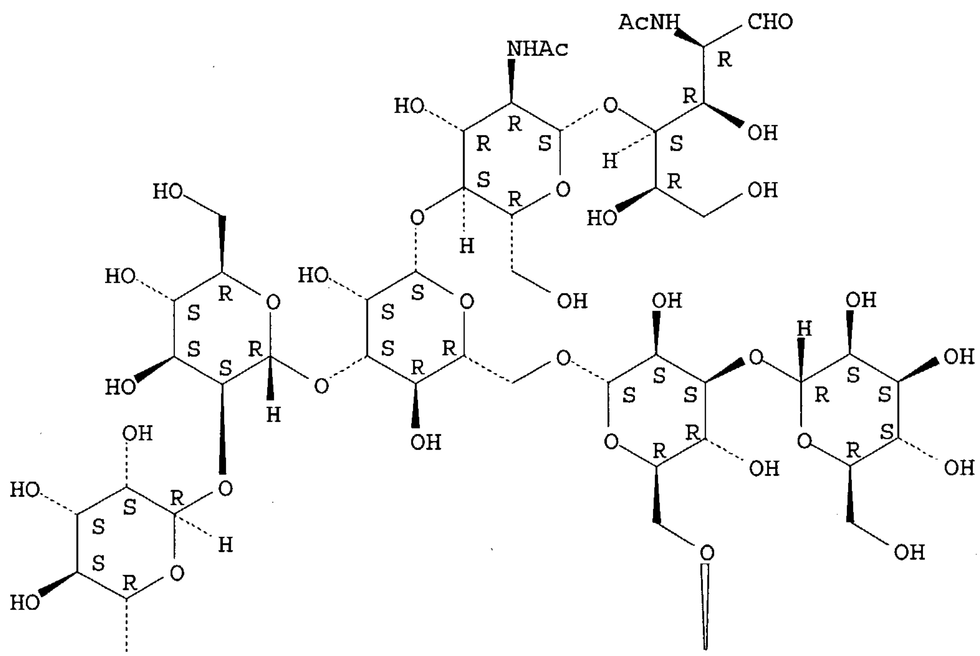
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

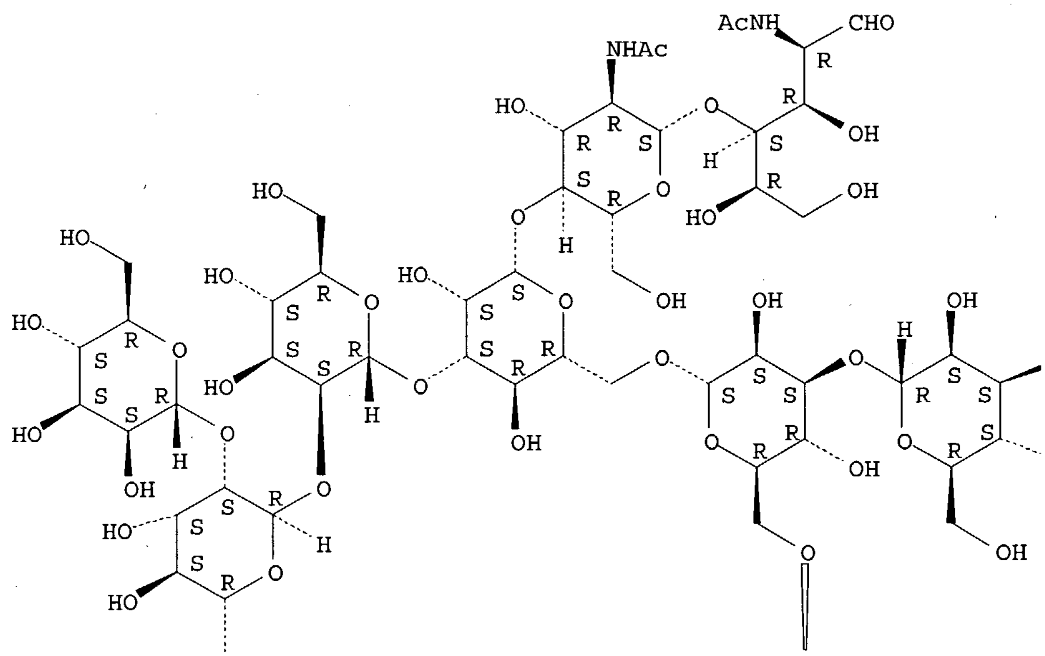


PAGE 2-A

RN 83178-05-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

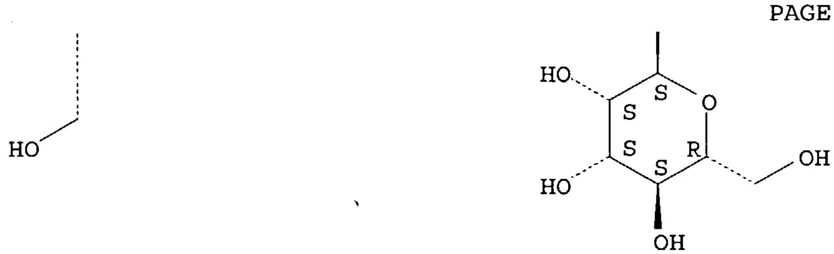
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

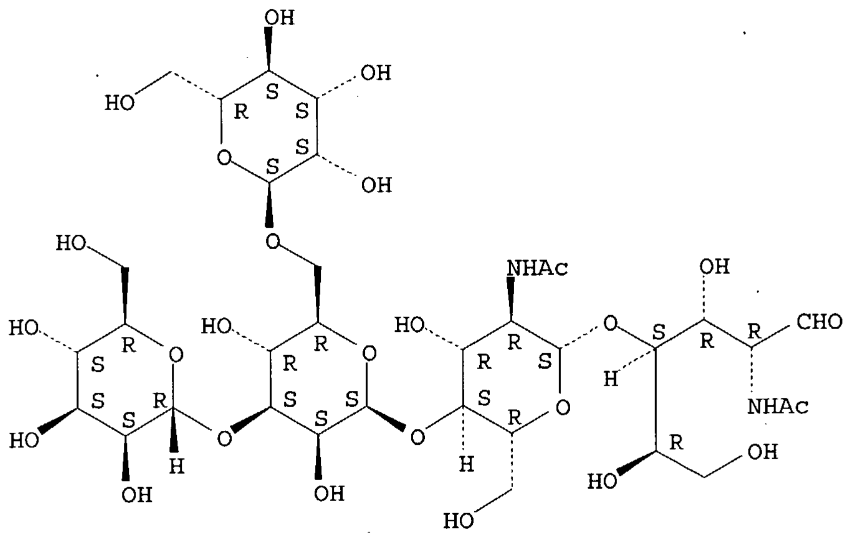
PAGE 2-A



L91 ANSWER 26 OF 46 HCAPLUS
AN 1990:547445 HCAPLUS
DN 113:147445
ED Entered STN: 27 Oct 1990
TI Structures of the **asparagine**-linked sugar chain of glucose transporter from human erythrocytes
AU Endo, Tamao; Kasahara, Michihiro; Kobata, Akira
CS Inst. Med. Sci., Univ. Tokyo, Tokyo, 108, Japan
SO Biochemistry (**1990**), 29(39), 9126-34
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The **asparagine**-linked sugar chain of glucose transporter from human erythrocytes was quant. released as oligosaccharides from the polypeptide backbone by hydrazinolysis. They were converted to radioactive oligosaccharides by NaB3H4 reduction after N-acetylation and fractionated by anion-exchange column chromatog. and Bio-Gel P-4 column chromatog. after sialidase treatment. Structural study of each oligosaccharide by exo- and endoglycosidase digestion and methylation anal. indicated that the glycoprotein contains a **high-mannose**-type oligosaccharide, Man9·GlcNAc·GlcNAc, and biantennary complex-type oligosaccharides with Manα1 → 6(±GlcNAcβ1 → 4)(Manα1 → 3)Manβ1 → 4GlcNAcβ1 → 4(±Fucα1 → 6)GlcNAc as their cores and the poly-N-acetyllactosamine composed of about 16 N-acetyllactosaminyl units as their outer chains. These structural features of the sugar moiety of glucose transporter are quite different from those of two major intrinsic glycoproteins of human erythrocytes, glycophorin A and band 3.
ST glucose transporter glycoprotein oligosaccharide structure erythrocyte
IT Erythrocyte
(glucose-transporter glycoprotein of, of human, structure of oligosaccharides of)
IT Oligosaccharides
RL: BIOL (Biological study)
(of glucose-transporter protein of human erythrocyte, structure of)
IT Glycophorins
RL: BIOL (Biological study)
(A, glucose-transporter glycoprotein of human erythrocyte oligosaccharide structure in relation to)
IT Glycolipoproteins
RL: BIOL (Biological study)
(band 3, glucose-transporter glycoprotein of human erythrocyte oligosaccharide structure in relation to)
IT Glycoproteins, specific or class
RL: BIOL (Biological study)
(glucose-transporting, oligosaccharides of, of human erythrocytes, structure of)
IT 38711-46-5 39024-56-1 **70858-45-6** **71246-55-4**
81415-06-7 102038-83-5 110387-51-4 110402-13-6 129176-14-3
RL: BIOL (Biological study)
(of glucose-transporter protein of human erythrocyte, structure of)
IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(of glucose-transporter protein of human erythrocytes, oligosaccharides attached to)
IT **70858-45-6** **71246-55-4**
RL: BIOL (Biological study)
(of glucose-transporter protein of human erythrocyte, structure of)
RN 70858-45-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-

2-deoxy- (9CI) (CA INDEX NAME)

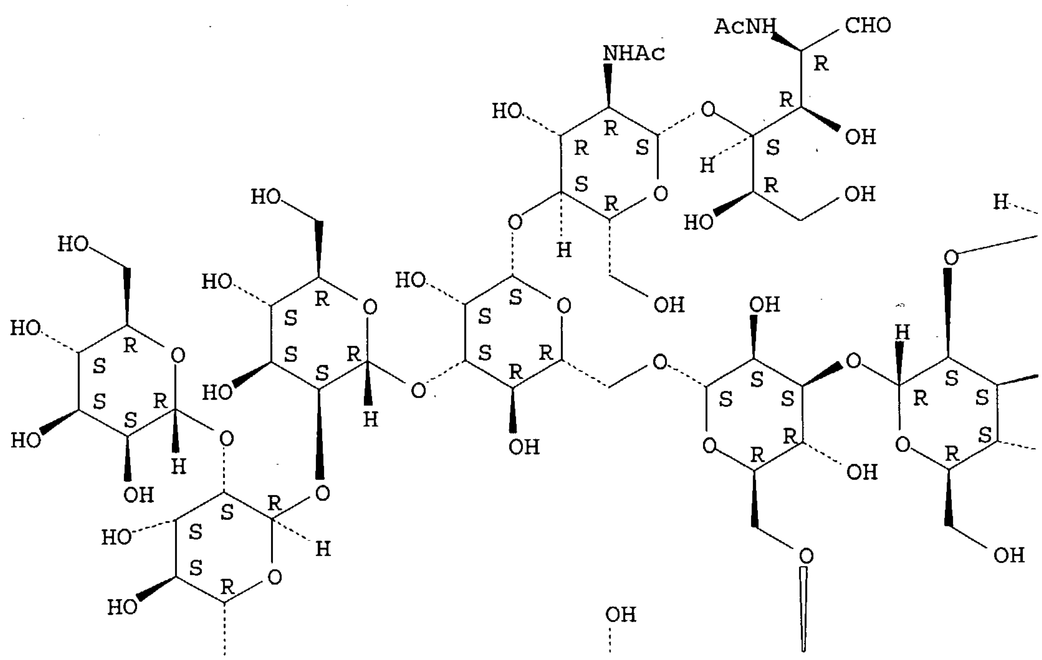
Absolute stereochemistry.



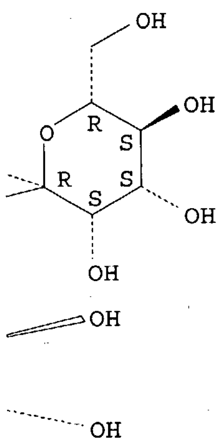
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

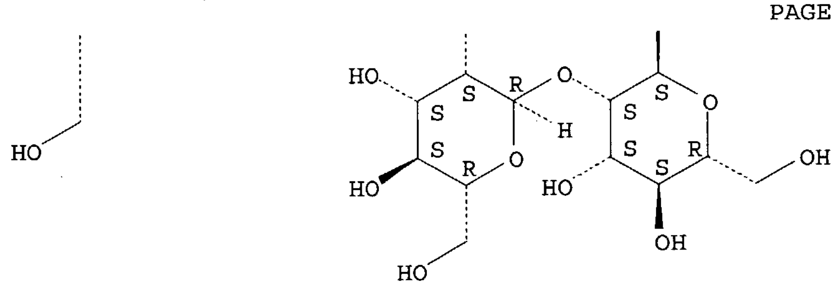
PAGE 1-A



PAGE 1-B

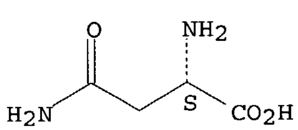


PAGE 2-A



IT 70-47-3, **Asparagine**, biological studies
RL: BIOL (Biological study)
(of glucose-transporter protein of human erythrocytes, oligosaccharides attached to)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.

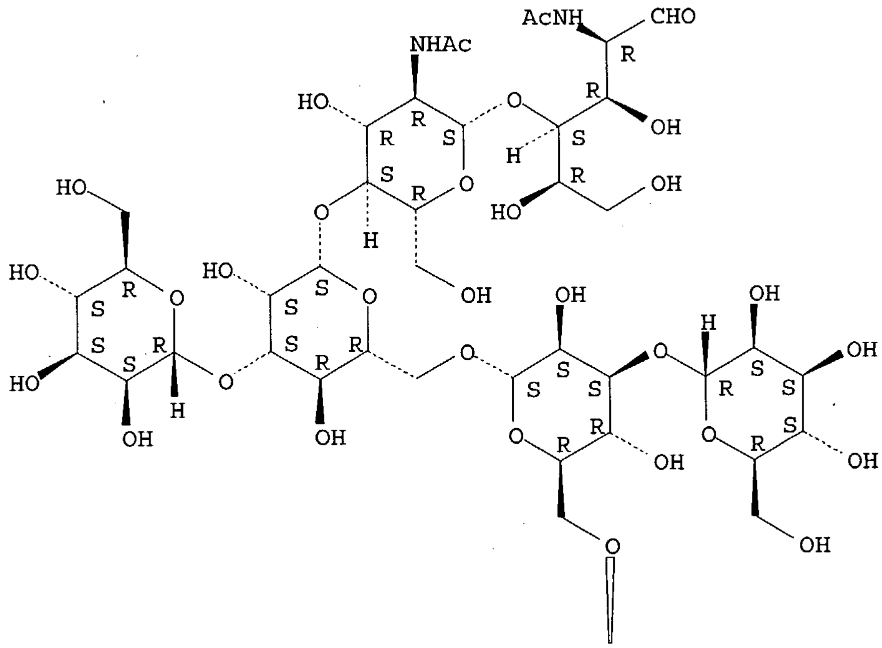


L91 ANSWER 27 OF 46 HCAPLUS
AN 1990:437007 HCAPLUS
DN 113:37007
ED Entered STN: 03 Aug 1990
TI Structural analysis of **Asn**-linked oligosaccharides of porcine pancreatic kallikrein
AU Tomiya, Noboru; Yamaguchi, Tadashi; Awaya, Juichi; Kurono, Masayasu; Endo, Satoshi; Arata, Yoji; Ishihara, Hideko; Mori, Masami; Tejima, Setsuzo; Takahashi, Noriko
CS Mie Res. Lab., Sanwa Kagaku Kenkyusho Co. Ltd., Mie, 511-04, Japan

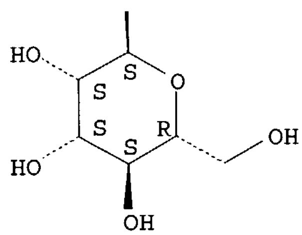
SO Advances in Experimental Medicine and Biology (**1989**),
247A(Kinins 5, Pt. A), 527-32
CODEN: AEMBAP; ISSN: 0065-2598
DT Journal
LA English
CC 7-5 (Enzymes)
Section cross-reference(s): 34
AB The oligosaccharide side chains of pancreatic β-kallikrein B were separated and their structures were determined The oligosaccharides eluted in the
high-mannose type region and the complex-type region.
ST kallikrein oligosaccharide structure pancreas
IT Oligosaccharides
RL: BIOL (Biological study)
(branched, of kallikrein, of pancreas, structure of)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of kallikrein, of pancreas, structure of)
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 83178-05-6 84813-89-8 107688-07-3
110387-64-9 110387-65-0 115796-96-8 115796-97-9 115796-98-0
115796-99-1 115797-00-7 115797-01-8 115797-02-9 115797-03-0
115826-53-4 115826-54-5 115826-55-6 115826-56-7 115826-57-8
RL: BIOL (Biological study)
(of kallikrein, of pancreas)
IT 9001-01-8, Kallikrein
RL: BIOL (Biological study)
(β-, B, oligosaccharide structure of, of pancreas)
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 83178-05-6
RL: BIOL (Biological study)
(of kallikrein, of pancreas)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



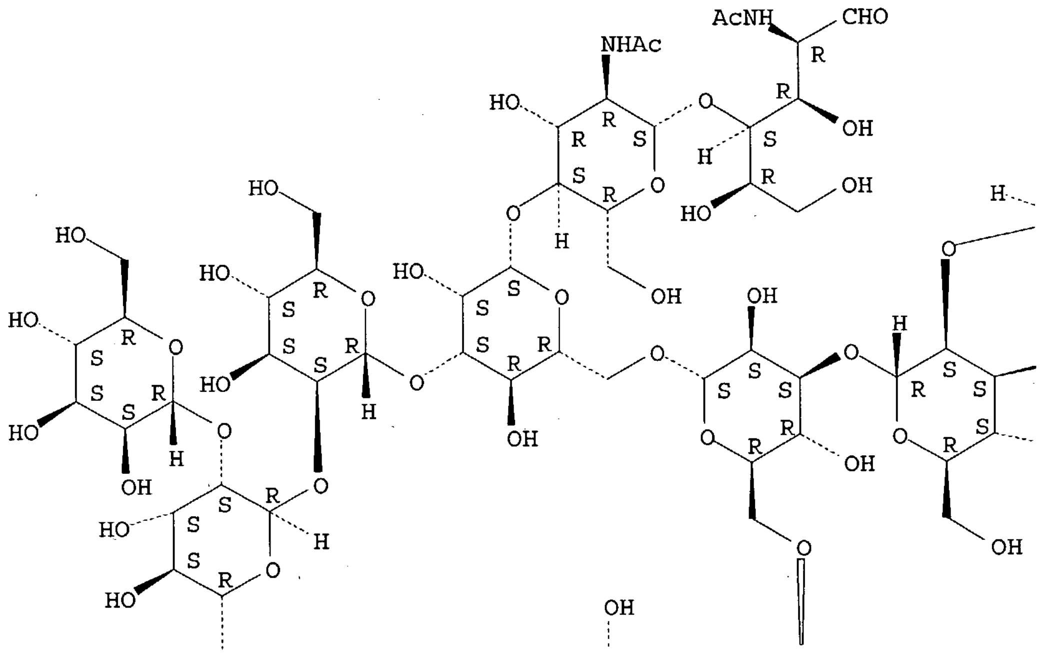
PAGE 2-A



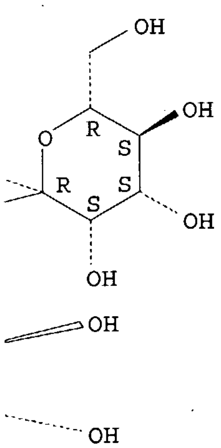
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

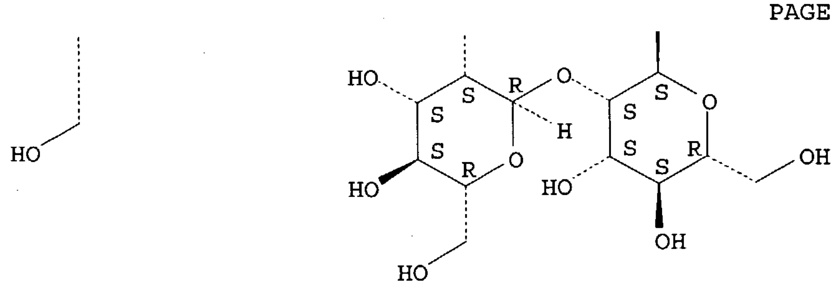
PAGE 1-A



PAGE 1-B



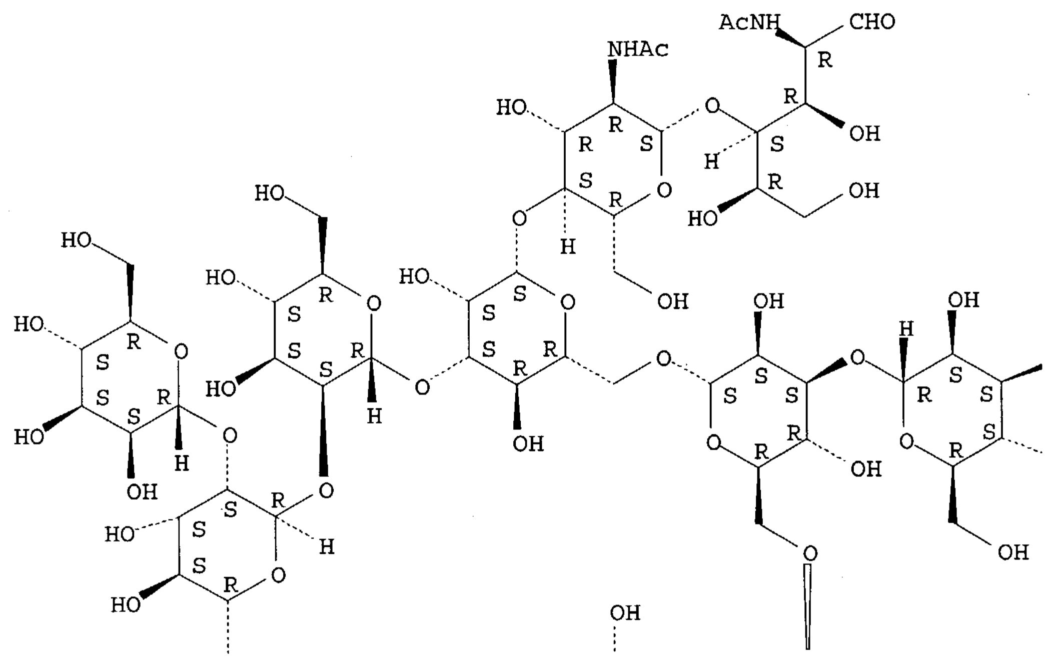
PAGE 2-A



RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

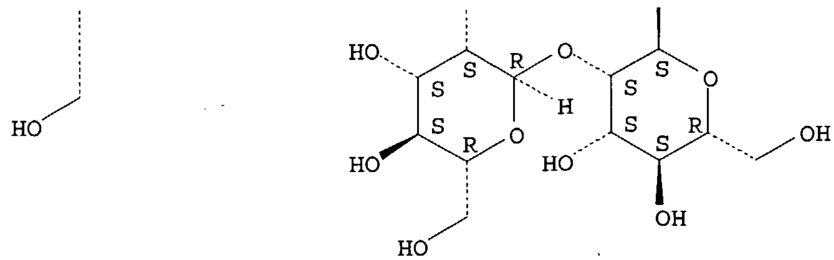
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

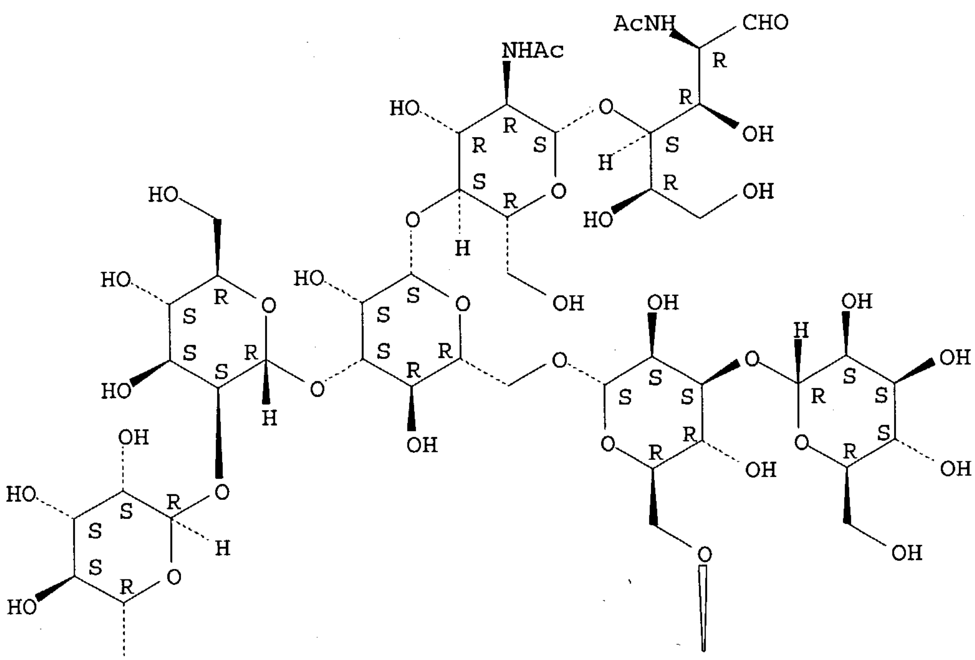
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

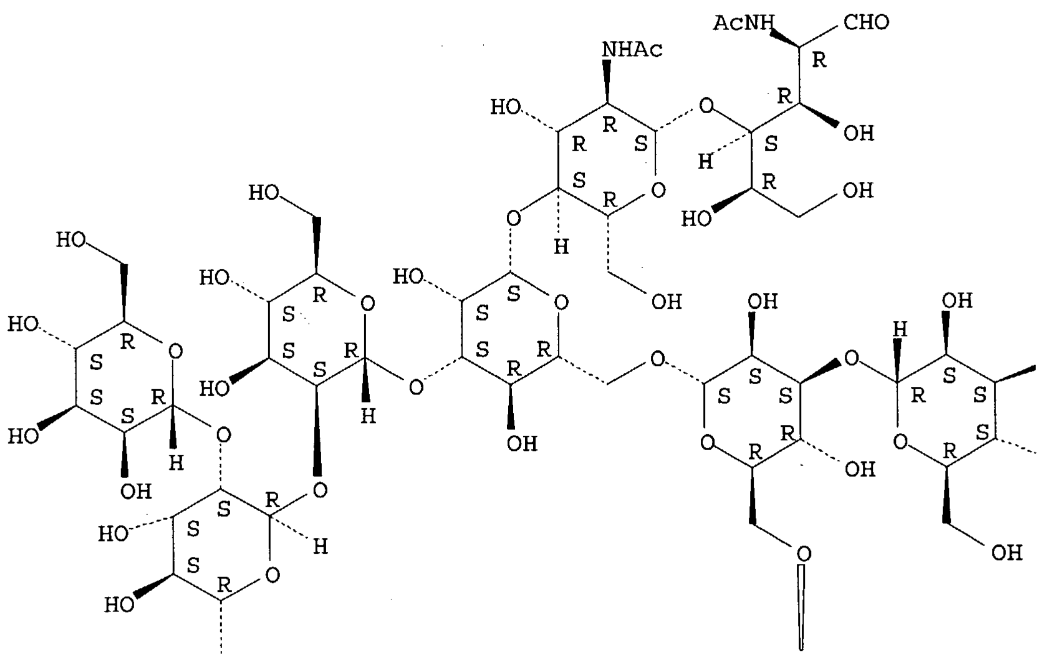


PAGE 2-A

RN 83178-05-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

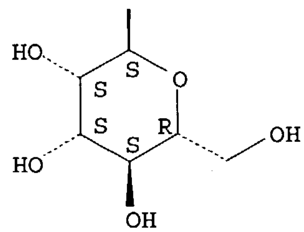
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

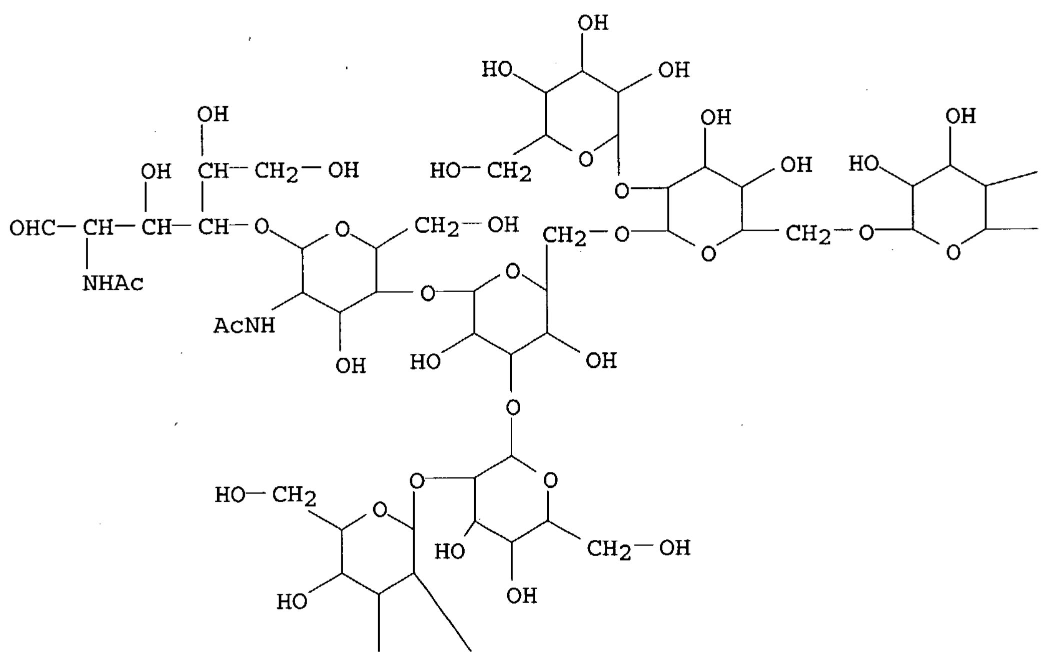
PAGE 2-A



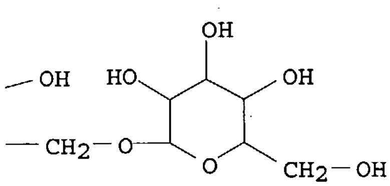
L91 ANSWER 28 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:627434 HCAPLUS
DN 111:227434
ED Entered STN: 23 Dec 1989
TI Structure, oligosaccharide structures, and posttranslationally modified sites of the nicotinic acetylcholine receptor
AU Poulter, L.; Earnest, J. P.; Stroud, R. M.; Burlingame, A. L.
CS Dep. Pharm. Chem., Univ. California, San Francisco, CA, 94143, USA
SO Proceedings of the National Academy of Sciences of the United States of America (**1989**), 86(17), 6645-9
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 9
AB Using mass spectrometry the transmembrane topog. of the nicotinic acetylcholine receptor, a 5-subunit glycosylated protein complex that forms a gated ion channel in the neuromuscular junction was examined The primary sequences of the 4 polypeptide chains making up the acetylcholine receptor from Torpedo californica contain many possible sites for glycosylation or phosphorylation. Liquid secondary ion mass spectrometry was used to identify post-translationally modified residues and to determine the intact oligosaccharide structures of the carbohydrate present on the acetylcholine receptor. **Asparagine**-143 of the α subunit (in consensus numbering) is shown to be glycosylated with **high-mannose** oligosaccharide. **Asparagine**-453 of the γ-subunit is not glycosylated, a fact that bears on the question of the orientations of putative transmembranes helixes M3, MA, and M4. The structures of the 6 major acetylcholine receptor oligosaccharides were determined; the major components (70%) are of the **high-mannose** type, with bi-, tri-, and tetraantennary complex oligosaccharides making up .apprch.22 mol% of the total carbohydrate. This application of a multichannel array detector mass spectrometer provided a breakthrough in sensitivity that allowed identification of the site of attachment of, and the sequence of, oligosaccharides on a 300-kDa membrane protein from only 5 pmol of the isolated oligosaccharide.
ST nicotinic acetylcholine receptor structure oligosaccharide; membrane topog nicotinic acetylcholine receptor; mass spectrometry glycoprotein oligosaccharide structure
IT Cell membrane
(nicotinic acetylcholine receptor topog. in, protein oligosaccharide structures in relation to)
IT Oligosaccharides
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor, structure of)
IT Mass spectroscopy
(oligosaccharide structure of glycoproteins determination by, multi-channel array detection in)
IT Receptors
RL: BIOL (Biological study)

(nicotinic, membrane topog. and oligosaccharide structures of)
IT 123739-48-0
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor)
IT 123739-48-0
RL: BIOL (Biological study)
(of nicotinic acetylcholine receptor)
RN 123739-48-0 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-[O-α-D-mannopyranosyl-(1→6)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

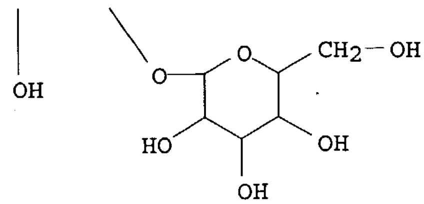
PAGE 1-A



PAGE 1-B



PAGE 2-A

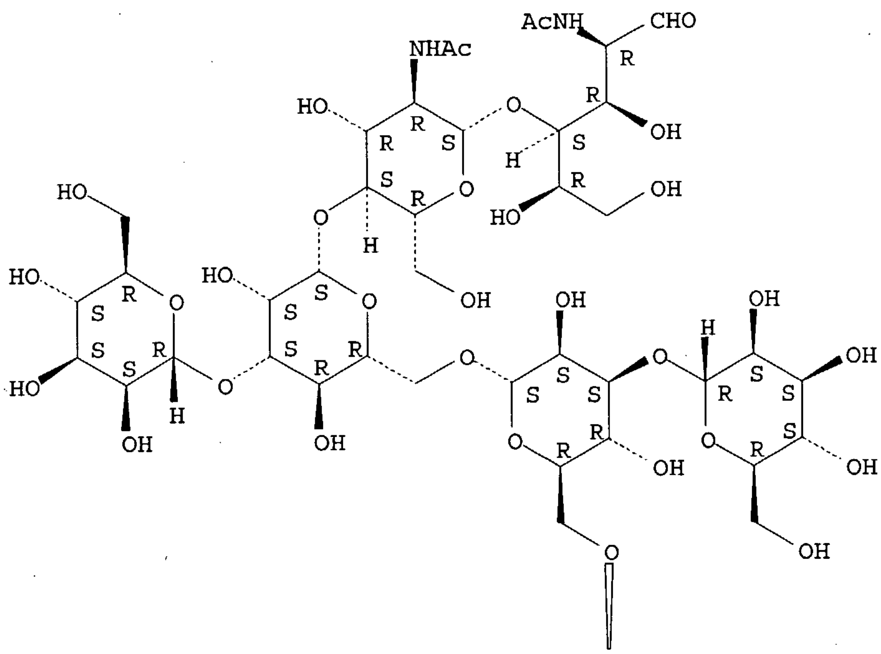


L91 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:529341 HCAPLUS
DN 111:129341
ED Entered STN: 14 Oct 1989
TI The structures of the **asparagine**-linked sugar chains of human apolipoprotein B-100
AU Taniguchi, Takahiro; Ishikawa, Yuichi; Tsunemitsu, Masahiko; Fukuzaki, Hisashi
CS Sch. Med., Kobe Univ., Kobe, 650, Japan
SO Archives of Biochemistry and Biophysics (**1989**), 273(1), 197-205
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
CC 6-4 (General Biochemistry)
Section cross-reference(s): 33
AB The **asparagine**-linked sugar chains of human apolipoprotein B-100 were liberated from the polypeptide portion by hydrazinolysis followed by N-acetylation and NaB3H4 reduction Their structures were elucidated by sequential exoglycosidase digestion in combination with methylation anal. after fractionation by paper electrophoresis and gel permeation chromatog. One neutral and 2 acidic fractions were obtained by paper electrophoresis in a molar ratio of 7:8:5. The neutral fraction contained **high-mannose** type oligosaccharides consisting of Man5GlcNAc2 to Man9GlcNAc2. The acidic fractions contained monosialylated and disialylated biantennary complex type oligosaccharides. As minor components in the monosialylated fraction, biantennary complex-type oligosaccharides which were absent one terminal galactose residue, monoantennary complex type, and hybrid type oligosaccharides were detected. Apolipoprotein B-100 was calculated to contain 5-6 mol of **high-mannose** type and 8-10 mol of complex type oligosaccharides per mol protein.
ST apolipoprotein B 100 oligosaccharide structure
IT Lipoproteins
RL: PRP (Properties)
(apo-, B-100, oligosaccharide structures of, of human)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of apolipoproteins of B-100 of human, structure of)
IT Oligosaccharides
RL: BIOL (Biological study)
(sialo-, branched, of apolipoproteins of B-100 of human, structure of)
IT **66091-47-2D**, mannosyl derivs. 71496-53-2 98969-42-7
103584-68-5 117186-30-8
RL: BIOL (Biological study)
(of apolipoprotein B-100, of human)
IT **66091-47-2D**, mannosyl derivs.
RL: BIOL (Biological study)
(of apolipoprotein B-100, of human)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-

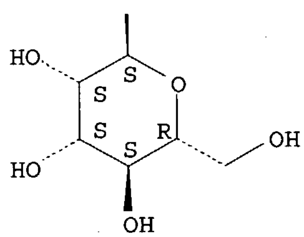
[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-
(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-
(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



L91 ANSWER 30 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:563655 HCAPLUS
DN 109:163655
ED Entered STN: 12 Nov 1988
TI Rates of processing of the **high mannose** oligosaccharide units at the three glycosylation sites of mouse thyrotropin and the two sites of free α-subunits
AU Miura, Yoshitaka; Perkel, Victor S.; Magner, James A.
CS Michael Reese Hosp., Univ. Chicago, Chicago, IL, 60616, USA
SO Endocrinology (**1988**), 123(3), 1296-302
CODEN: ENDOAO; ISSN: 0013-7227
DT Journal
LA English
CC 2-2 (Mammalian Hormones)
AB The structures of **high mannose** (Man) oligosaccharide

units were determined at individual glycosylation sites of mouse TSH. Mouse thyrotropic tumor tissue was incubated with D-[2-3H]Man with or without [14C]tyrosine ([14C]Tyr) for 2, 3, or 6 h, and for a 3-h pulse followed by a 2-h chase. TSH heterodimers or free α-subunits were obtained from homogenates using specific antisera. After reduction and alkylation, subunits were treated with trypsin. The tryptic fragments were then loaded on a reverse phase HPLC column to sep. tryptic fragments bearing labeled oligosaccharides. The N-linked oligosaccharides were released with endoglycosidase-H and analyzed by paper chromatog. Man9GlcNac2 and Man8GlcNac2 units predominated at each time point and at each specific glycosylation site, but the processing of high Man oligosaccharides differed at each glycosylation site. The processing at Asn23 of TSH β-subunits was slower than that at Asn56 or Asn82 of α-subunits. The processing at Asn82 was slightly faster than that at Asn56 for both α-subunits of TSH heterodimers and free α-subunits. Evidently, the early processing of oligosaccharides differs at the individual glycosylation sites of TSH and free α-subunits, perhaps, because of local conformational differences.

ST TSH glycosylation site oligosaccharide processing; **asparagine** TSH subunit processing

IT Glycosidation
(TSH and its α-subunits sites for, oligosaccharide processing at)

IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, at TSH glycosylation sites)

IT 9002-71-5, Thyrotropin
RL: BIOL (Biological study)
(and its α-subunits, oligosaccharide mannose-high units processing at glycosylation sites of)

IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(as glycosylation sites for TSH and its α-subunits, oligosaccharide differential processing in)

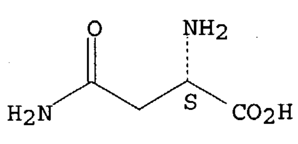
IT **71246-55-4**
RL: BIOL (Biological study)
(at TSH glycosylation sites)

IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(as glycosylation sites for TSH and its α-subunits, oligosaccharide differential processing in)

RN 70-47-3 HCAPLUS

CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



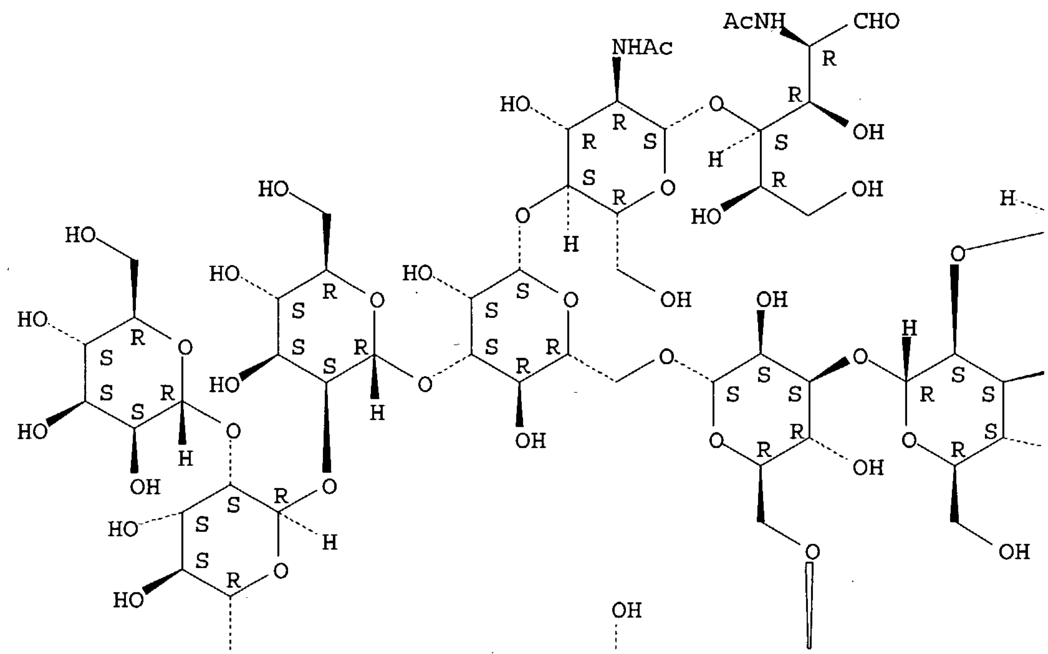
IT **71246-55-4**
RL: BIOL (Biological study)
(at TSH glycosylation sites)

RN 71246-55-4 HCAPLUS

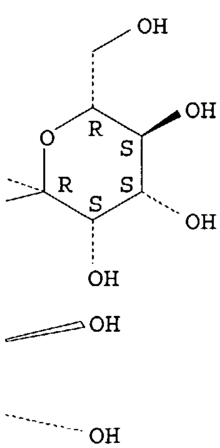
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

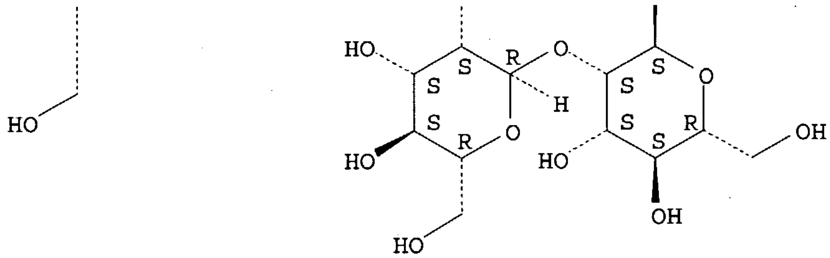
PAGE 1-A



PAGE 1-B



PAGE 2-A



L91 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:3428 HCAPLUS
DN 108:3428
ED Entered STN: 09 Jan 1988
TI Structure, position, and biosynthesis of the **high mannose** and the complex oligosaccharide side chains of the bean storage protein phaseolin
AU Sturm, Arnd; Van Kuik, J. Albert; Vliegenthart, J. F. G.; Chrispeels, Maarten J.
CS Dep. Biol., Univ. California, La Jolla, CA, 92093, USA
SO Journal of Biological Chemistry (**1987**), 262(28), 13392-403
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 11-1 (Plant Biochemistry)
Section cross-reference(s): 6, 33
AB Phaseolin, the major storage protein of the common bean (Phaseolus vulgaris), is a glycoprotein which is synthesized during seed development and accumulates in protein storage vacuoles or protein bodies. The protein has 3 different N-linked oligosaccharide side chains: Man9(GlcNAc)2, Man7(GlcNAc)2, and Xyl-Man3(GlcNAc)2 (where Xyl represents xylose). The structures of these glycans were determined by 1H NMR spectroscopy. The Man9(GlcNAc)2 glycan has the typical structure found in plant and animal glycoproteins. The structures of the 2 other glycans are given. Phaseolin was separated by electrophoresis on denaturing gels into 4 size classes of polypeptides. The 2 abundant ones have 2 oligosaccharides each, whereas the less abundant ones have only 1 oligosaccharide each. Polypeptides with 2 glycans have Man7(GlcNAc)2 attached to **asparagine** (**Asn**)252 and Man9(GlcNAc)2 attached to Asn341. Polypeptides with only 1 glycan have Xyl-Man3(GlcNAc)2 attached to Asn252. Both these **Asn** residues are in canonical glycosylation sites; the numbering starts with the N-terminal methionine of the signal peptide of phaseolin. The presence of Man7(GlcNAc)2 and of Xyl-Man3(GlcNAc)2 at the same **Asn** residue (position 252) of different polypeptides seems to be controlled by the glycosylation status of Asn341. When Asp341 is unoccupied, the glycan at Asn252 is complex. When Asn341 is occupied, the glycan at Asn252 is only modified to the extent that 2 mannosyl residues are removed. The processing of the glycans, after the removal of the glucose residues, involves enzymes in the Golgi apparatus as well as in the protein bodies. Formation of the Xyl-Man3(GlcNAc)2 glycan is a multistep process that involves the Golgi apparatus-mediated removal of 6 mannose residues and the addition of 2 N-acetylglucosamine residues and 1 xylose. The terminal N-acetylglucosamine residues are later removed in the protein bodies. The conversion of Man9(GlcNAc)2 to Man7(GlcNAc)2 is a late processing event which occurs in the protein bodies. Expts. in which [3H]glucosamine-labeled phaseolin obtained from the endoplasmic reticulum (i.e. precursor phaseolin) is incubated with jack bean α-mannosidase show that the **high-mannose** glycan on Asn252, but not the one on

Asn341, is susceptible to enzyme degradation Incubation of [3H]glucosamine-labeled phaseolin obtained from the Golgi apparatus with jack bean β-N-acetylglucosaminidase results in the removal of the terminal N-acetylglucosamine residues from the complex chain. These observations are discussed in relation to the hypothesis that the control of glycan modification is determined largely by the accessibility of the glycan chains to the glycosidases and glycosyltransferases in the Golgi apparatus

ST Phaseolus phaseolin oligosaccharide structure position formation; bean phaseolin oligosaccharide structure position formation

IT Oligosaccharides
RL: BIOL (Biological study)
(complex, of phaseolin of bean, structure and position and biosynthesis of)

IT Protein sequences
(of phaseolin glycosylated regions, of bean)

IT Bean
(phaseolin of, **high-mannose** and complex oligosaccharides of, structure and position and biosynthesis of)

IT Golgi apparatus
(phaseolin oligosaccharide processing in, of bean)

IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of phaseolin of bean, structure and position and biosynthesis of)

IT Globulins, biological studies
RL: BIOL (Biological study)
(phaseolins, **high-mannose** and complex oligosaccharides of, of bean, structure and position and biosynthesis of)

IT Organelle
(protein body, phaseolin oligosaccharide processing in, of bean)

IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(of phaseolin positions 252 and 341, as glycosylation sites)

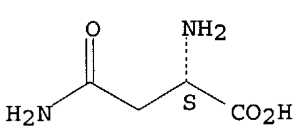
IT **71246-55-4** 78630-21-4 111589-63-0
RL: BIOL (Biological study)
(of phaseolin, of bean, structure and position and biosynthesis of)

IT **70-47-3, Asparagine**, biological studies
RL: BIOL (Biological study)
(of phaseolin positions 252 and 341, as glycosylation sites)

RN 70-47-3 HCAPLUS

CN L-Asparagine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



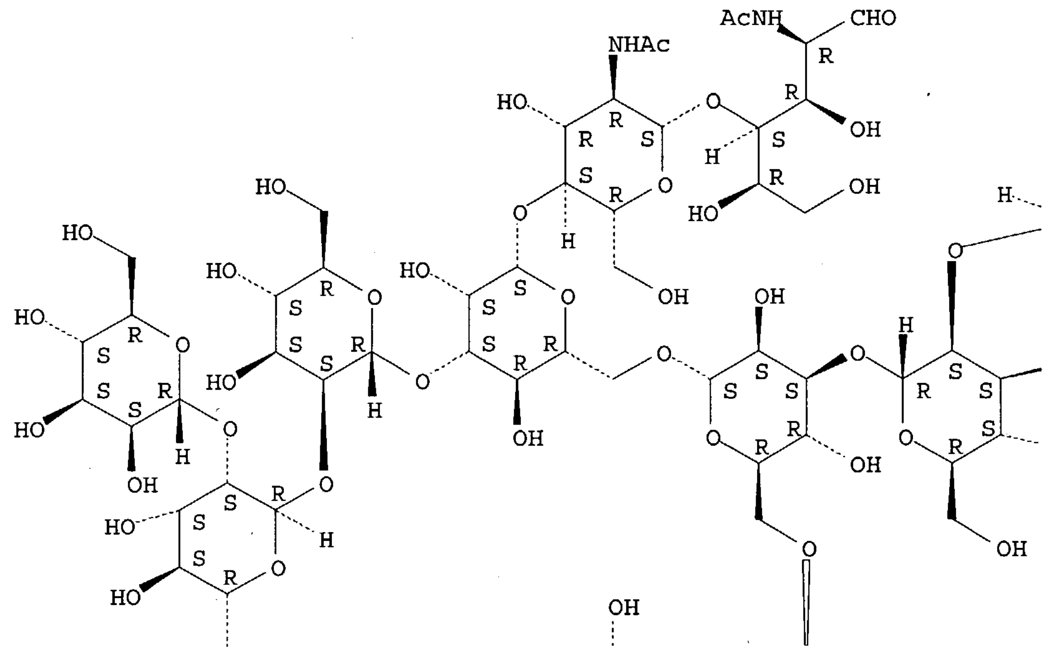
IT **71246-55-4**
RL: BIOL (Biological study)
(of phaseolin, of bean, structure and position and biosynthesis of)

RN 71246-55-4 HCAPLUS

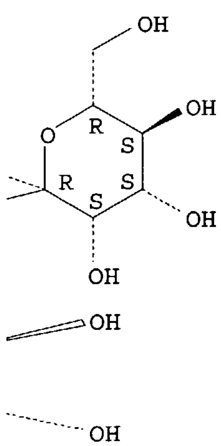
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

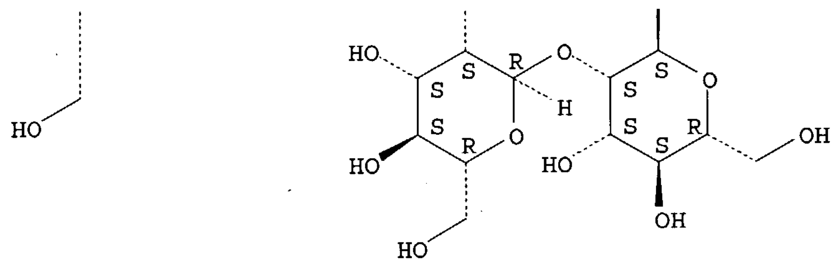
PAGE 1-A



PAGE 1-B



PAGE 2-A



L91 ANSWER 32 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:437847 HCAPLUS
DN 107:37847
ED Entered STN: 08 Aug 1987
TI Carbohydrates of influenza virus. Structure of the oligosaccharides linked to **asparagines** 406 and 478 in the hemagglutinin of fowl plague virus, strain Dutch
AU Geyer, Rudolf; Diabate, Silvia; Geyer, Hildegard; Klenk, Hans Dieter; Niemann, Heiner; Stirm, Stephan
CS Biochem. Inst. Klin., Univ. Giessen, Giessen, D-6300, Fed. Rep. Ger.
SO Glycoconjugate Journal (**1987**), 4(1), 17-32
CODEN: GLJOEW; ISSN: 0282-0080
DT Journal
LA English
CC 15-6 (Immunochemistry)
Section cross-reference(s): 10
AB Fowl plague virus, strain Dutch, was metabolically labeled with D-[2-3H]mannose, or with D-[6-3H]glucosamine, and the small subunit (HA2; 0.8 mg in total) of the viral hemagglutinin was isolated by preparative SDS-PAGE. After proteolytic digestion, the radioactive oligosaccharides were sequentially liberated from the glycopeptides by treatment with different endo-β-N-acetylglucosaminidases and with peptide: N-glycosidase or, finally, by hydrazinolysis. In this manner, 4 groups of glycans were obtained by consecutive gel filtrations and were subfractionated by HPLC. The structures of the individual oligosaccharides were analyzed by micromethylation, by acetolysis, or by digestion with exoglycosidases. The major species among the **high mannose** glycans at **asparagine** **(Asn)**-406 of the viral glycopolypeptide were found to be Manα1-2Manα1-3(Manα1-2Manα1-6)Manα1-6(Manα1-2Manα1-2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAc and Manα1-3(Manα1-2Manα1-6)Manα1-6(Manα1-2Manα1-2Manα1-3)Manβ1-4GlcNAcβ1-4GlcNAc, while the complex glycans at **Asn**-478 are predominantly GlcNAcβ1-2Manα1-3(GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAc (lacking, in part, one of the outer N-acetylglucosamine residues) and GlcNAcβ1-2Manα1-3(Galβ1-4GlcNAcβ1-2Manα1-6)Manβ1-4GlcNAcβ1-4GlcNAc.
ST fowl plague virus hemagglutinin oligosaccharide
IT Glycoproteins, biological studies
RL: BIOL (Biological study)
(carbohydrates of, of fowl plague virus hemagglutinin, characterization of)
IT Carbohydrates and Sugars, biological studies
RL: BIOL (Biological study)
(of hemagglutinin, of fowl plague virus, characterization of)
IT Virus, animal
(fowl plague, hemagglutinin of, carbohydrates of, characterization of)
IT Agglutinins and Lectins

RL: BIOL (Biological study)
(hemagglutinins, carbohydrates of, of fowl plague virus, characterization of)

IT **71246-55-4 77036-51-2** 84808-02-6 109050-95-5
RL: BIOL (Biological study)
(of fowl plague virus hemagglutinin)

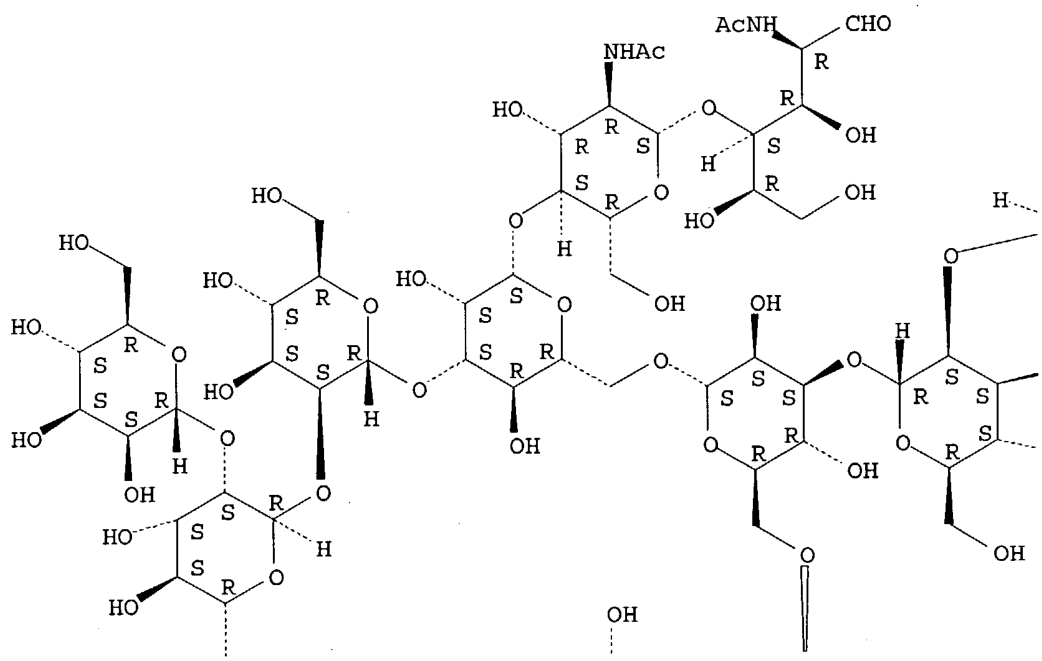
IT **71246-55-4 77036-51-2**
RL: BIOL (Biological study)
(of fowl plague virus hemagglutinin)

RN 71246-55-4 HCAPLUS

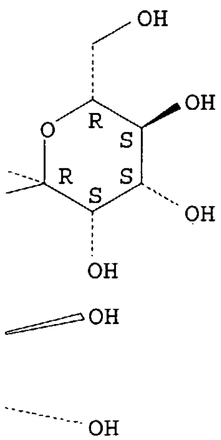
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

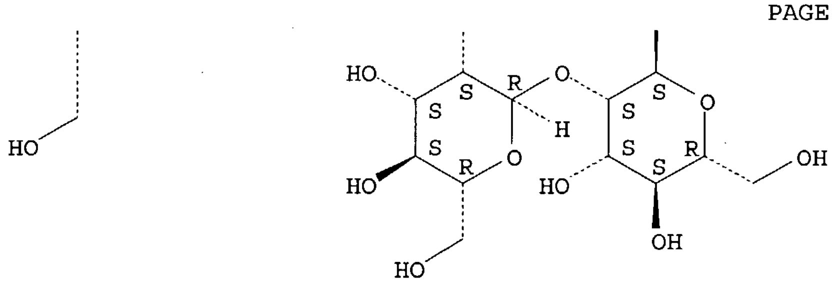
PAGE 1-A



PAGE 1-B



PAGE 2-A

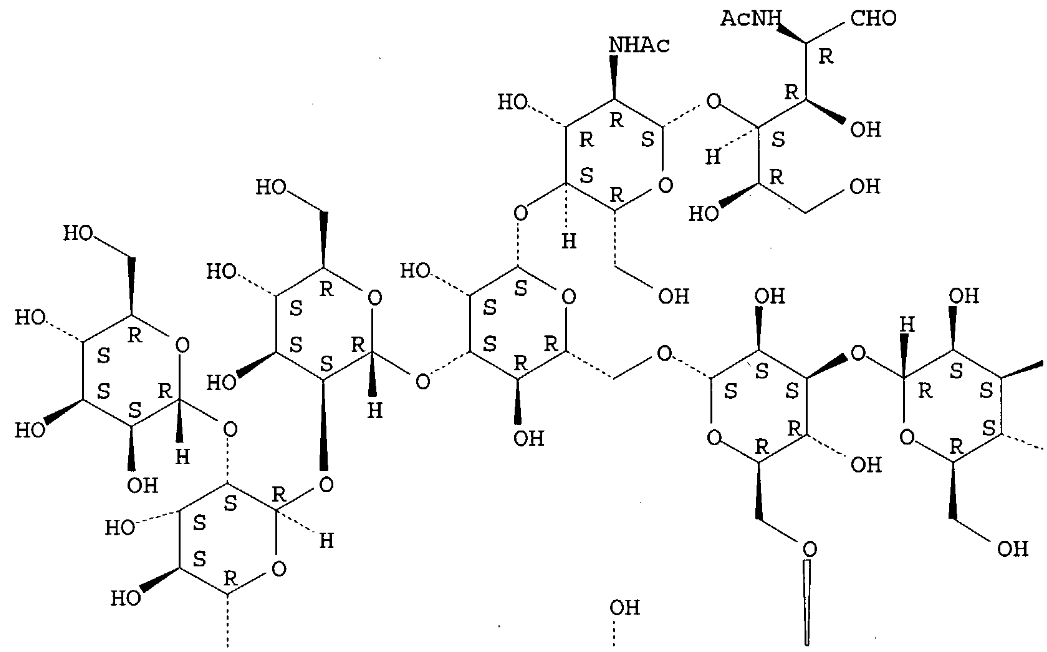


RN 77036-51-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

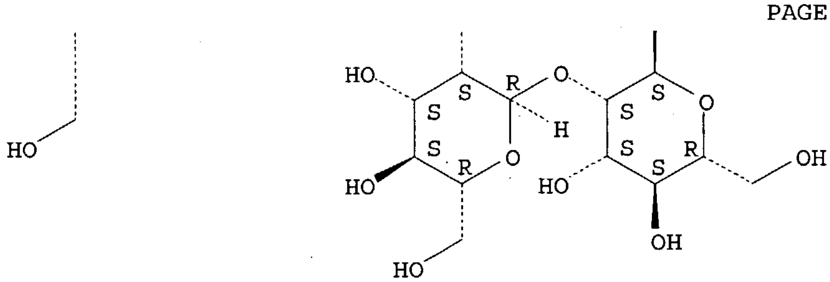
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A

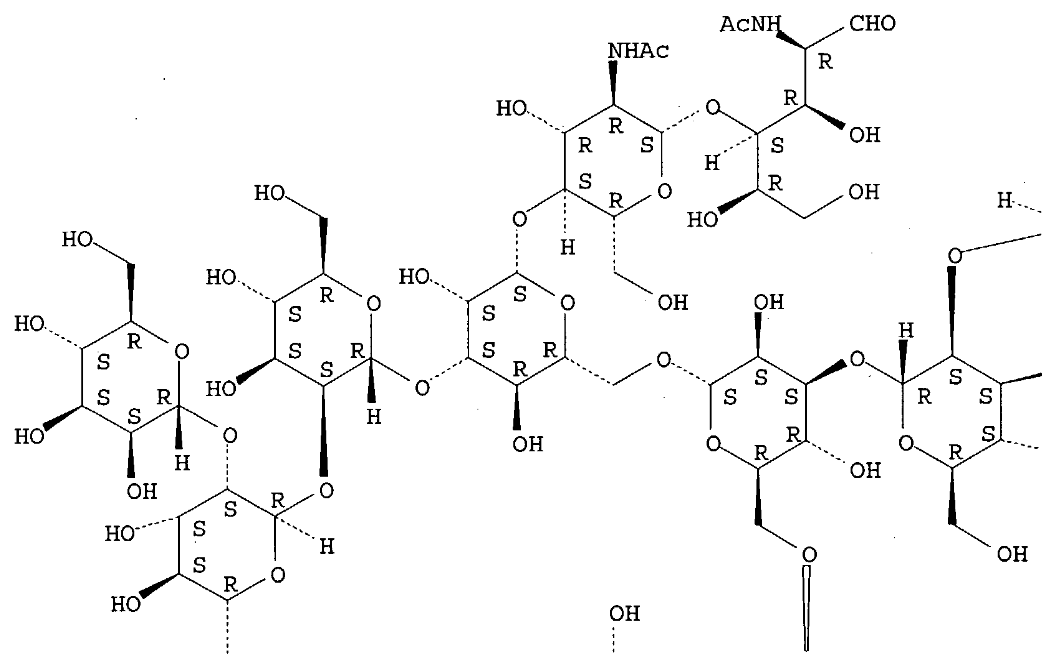


L91 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:3453 HCAPLUS
DN 106:3453
ED Entered STN: 11 Jan 1987
TI **Asn**-linked oligosaccharides in lectin-resistant tumor-cell mutants with varying metastatic potential
AU Dennis, James W.; Laferte, S.; Fukuda, M.; Dell, A.; Carver, J. P.
CS Cancer Res. Div., Mt. Sinai Hosp., Toronto, ON, M5G 1X5, Can.
SO European Journal of Biochemistry (**1986**), 161(2), 359-73
CODEN: EJBCAI; ISSN: 0014-2956
DT Journal
LA English
CC 14-1 (Mammalian Pathological Biochemistry)
AB MDW4, a what germ agglutinin-resistant mutant of the metastatic murine tumor MDAY-D2 has previously been shown to be poorly metastatic when injected i.v. and nonmetastatic when injected s.c. into syngeneic mice. W4EB8, a Bandeiraea simplicifolia (BSII) lectin-selected subline of MDW4 has previously been shown to be intermediate between that of MDAY-D2 and MDW4 cell for sensitivity to lectin and metastatic phenotype when injected i.v. into mice. Wild-type mutant cells processed **high-mannose**-type **asparagine** (**Asn**)-linked oligosaccharides to biantennary (GlcNAc)2(Man)3(GlcNAc)2. In MDAY-2 cells this structure was processed further to sialylated tetra-antennary complex with polylactosamine-containing antennae terminating in either sialic acid or α1-3-linked galactose. MDW4 cells had 4-5 times more (GlcNAc)2(Man)3(GlcNAc)2 than MDAY-D2 cells and a major component of triantennary structure (GlcNAc)3(Man)3(GlcNAc)2 (i.e. 2,2,6-substituted trimannosyl core) that was not found in wild-type cells. The partial revertant, W4EB8, had intermediate levels of mutant (GlcNAc)3(Man)3(GlcNAc)2 and sialylated complex-type carbohydrates. A shift in expression from incomplete complex type to sialylated tri/tetra-antennary complex-type carbohydrates in tumor cells may enhance metastatic potential of tumor cells in the exptl. metastasis assay. In addition, somatic cell hybridization anal. indicated that the defect in MDW4 cells was identical to that of the Chinese hamster ovary mutant Lec8; a deficiency in UDP-galactose transport into the golgi.
ST oligosaccharide structure tumor metastasis
IT Golgi apparatus
(UDP-galactose transport by, in oligosaccharide processing in tumors, metastasis in relation to)
IT Biological transport
(of UDP-galactose, by Golgi apparatus, in oligosaccharide processing by tumors, metastasis in relation to)
IT Oligosaccharides
RL: BIOL (Biological study)
(of neoplasm, metastasis in relation to)
IT Neoplasm, composition
(oligosaccharides of, metastasis in relation to)
IT 131-48-6 **71246-55-4 77036-51-2 77355-54-5**
84808-02-6 105165-37-5
RL: BIOL (Biological study)
(of neoplasm, metastasis in relation to)
IT 2956-16-3, UDP-galactose
RL: PROC (Process)
(transport of, by Golgi apparatus, in oligosaccharide processing by tumors, metastasis in relation to)
IT **71246-55-4 77036-51-2 77355-54-5**
RL: BIOL (Biological study)
(of neoplasm, metastasis in relation to)
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-

mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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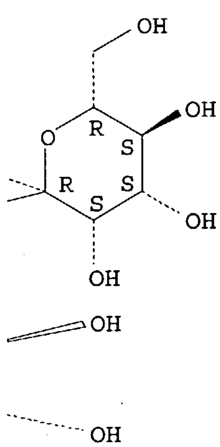
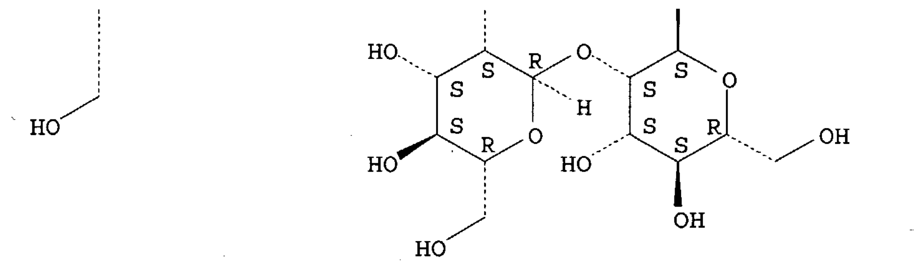


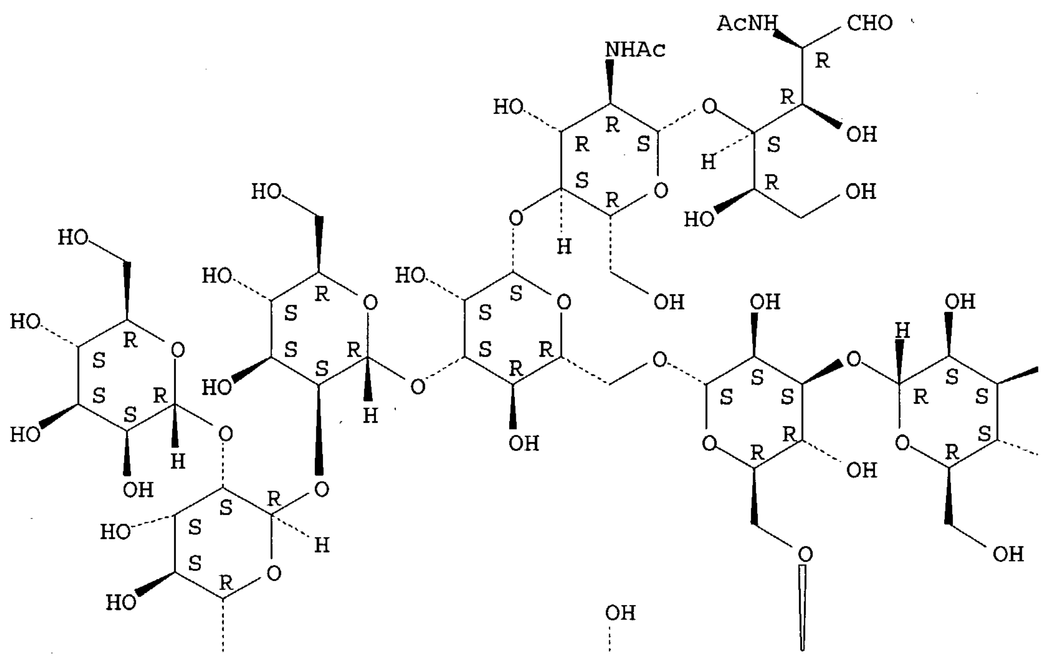
PAGE 2-A



RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

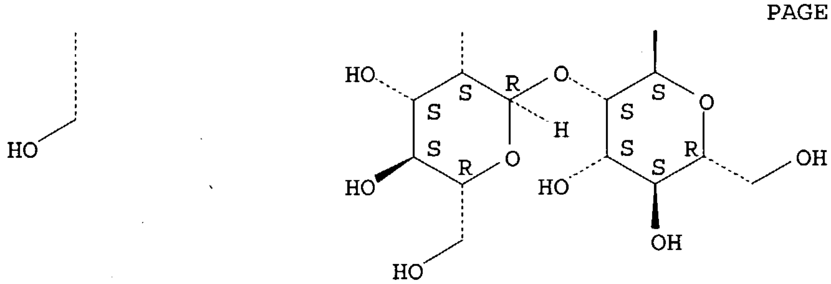
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A

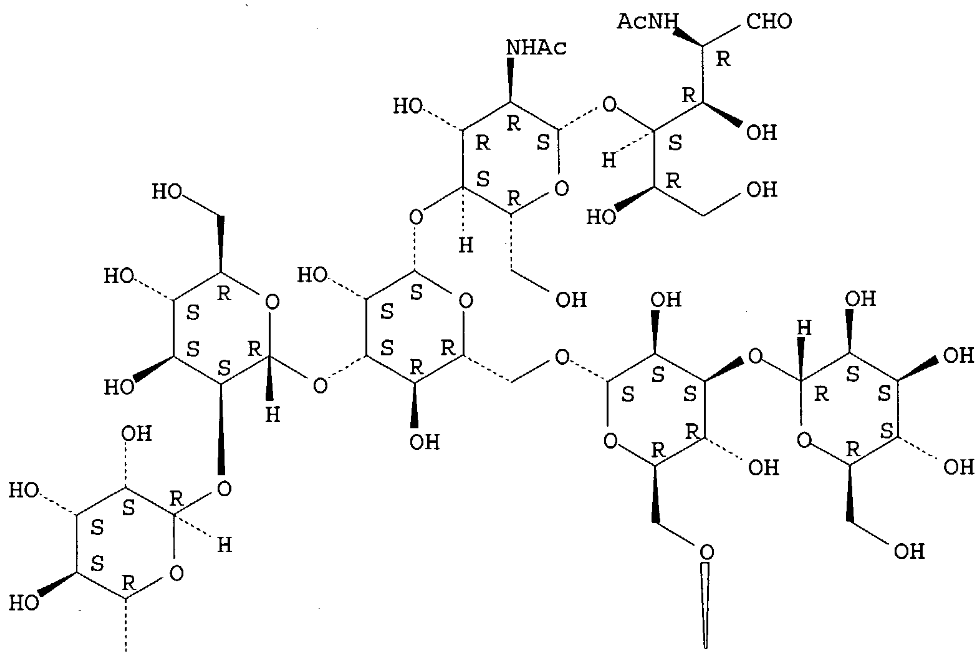


RN 77355-54-5 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

L91 ANSWER 34 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1987:2656 HCAPLUS
DN 106:2656
ED Entered STN: 11 Jan 1987
TI Characterization of the mechanism of protein glycosylation and the structure of glycoconjugates in tissue culture trypomastigotes and intracellular amastigotes of Trypanosoma cruzi
AU Doyle, Patricia; De la Canal, Laura; Engel, Juan C.; Parodi, Armando J.
CS Inst. Nac. Diagn. Invest. Enfermedad Chagas "Dr. Mario Fatala Chaben", Buenos Aires, 1063, Argent.
SO Molecular and Biochemical Parasitology (**1986**), 21(1), 93-101
CODEN: MBIPDP; ISSN: 0166-6851
DT Journal
LA English
CC 10-2 (Microbial Biochemistry)
AB Trypomastigote cells of T. cruzi incubated with [U-14C]glucose accumulated dolichol-P-P-linked Man7GlcNAc2 and Man9GlcNAc2. Both oligosaccharides were transferred to **asparagine** residues in proteins. On the other hand, intracellular amastigotes behaved as epimastigotes, i.e., only Man9GlcNAc2 accumulated and was transferred to proteins under similar

incubation conditions. Intracellular amastigotes differed, therefore, from amastigotes obtained from an axenic culture, which behaved as trypomastigotes. A similar processing of protein-linked Man9GlcNAc2 and Man8GlcNAc2 occurred in epimastigotes and trypomastigotes but the structure of the main Man7GlcNa2 isomer produced by demannosylation of the above mentioned oligosaccharides differed from that of the Man7GlcNAc2 transferred in trypomastigotes and amastigotes from axenic cultures. The infective trypomastigote stage of the parasite showed, therefore, an alteration in the mechanism of protein N-glycosylation when compared to the other stages, namely epimastigote (insect vector stage) and amastigote (mammalian intracellular stage). Complex-type, **asparagine**-bound oligosaccharides were synthesized in both epimastigotes and trypomastigotes but the amts. of those compds. were extremely low when compared to those of **high mannose**-type
oligosaccharides.

ST Trypanosoma developmental stage protein glycosylation

IT Trypanosoma cruzi
(glycoproteins and protein glycosylation in, development in relation to)

IT Glycosidation
(of proteins by Trypanosoma cruzi, development in relation to)

IT Glycoproteins
Oligosaccharides
RL: BIOL (Biological study)
(of Trypanosoma cruzi, development in relation to)

IT Microorganism development
(parasitic stages, glycoproteins and protein glycosylation of Trypanosoma cruzi in)

IT **71246-55-4 81034-79-9 81046-85-7**
RL: BIOL (Biological study)
(of Trypanosoma cruzi, development in relation to)

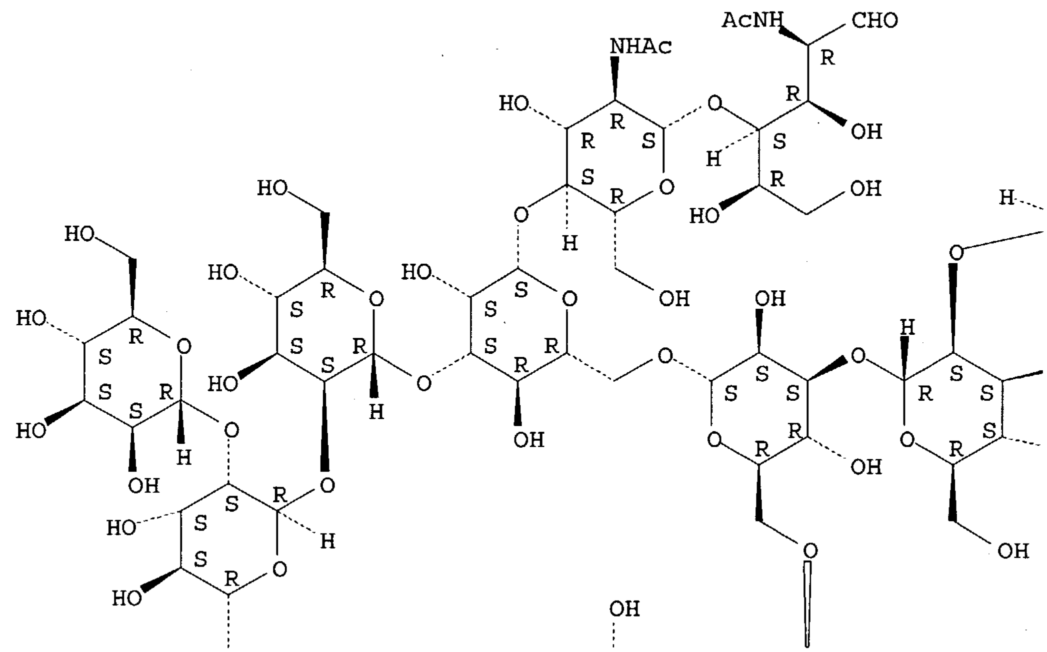
IT **71246-55-4 81034-79-9 81046-85-7**
RL: BIOL (Biological study)
(of Trypanosoma cruzi, development in relation to)

RN 71246-55-4 HCAPLUS

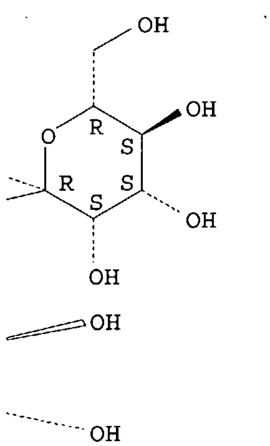
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

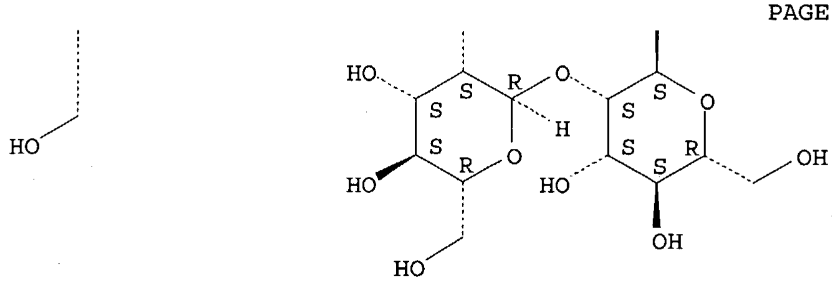
PAGE 1-A



PAGE 1-B



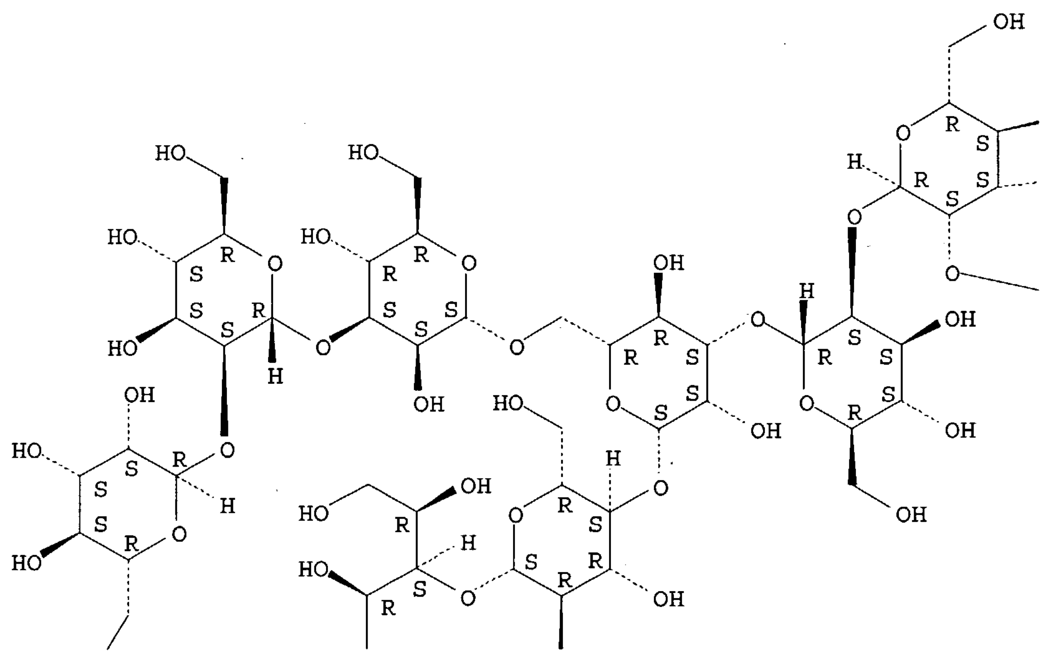
PAGE 2-A



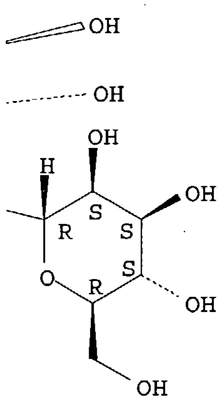
RN 81034-79-9 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

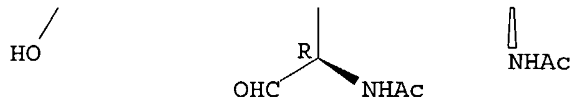
PAGE 1-A



PAGE 1-B



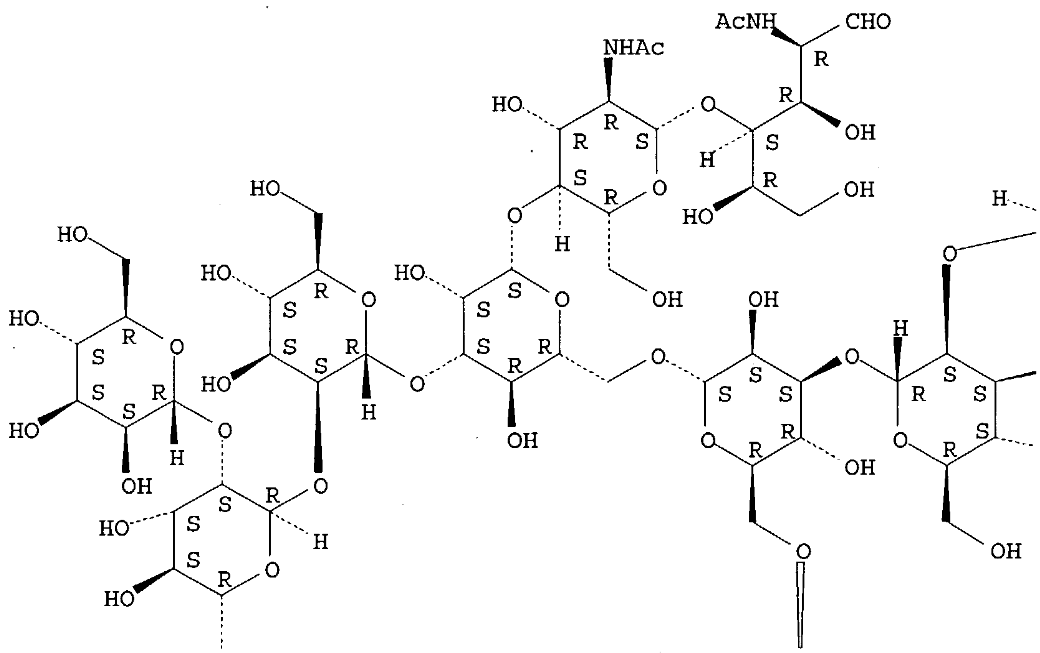
PAGE 2-A



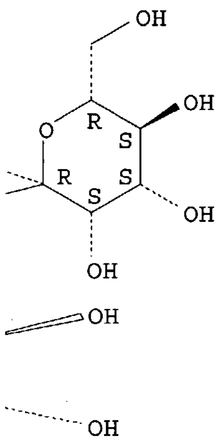
RN 81046-85-7 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

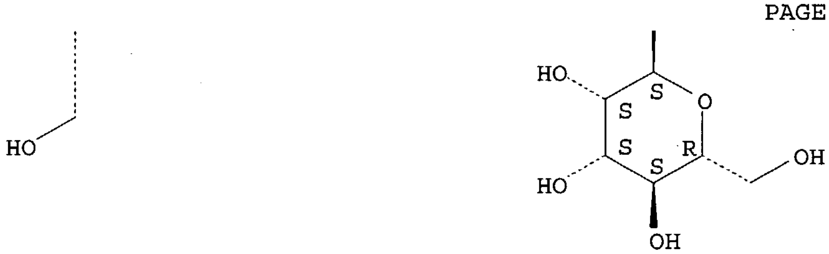
PAGE 1-A



PAGE 1-B



PAGE 2-A



L91 ANSWER 35 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:609380 HCAPLUS
DN 105:209380
ED Entered STN: 13 Dec 1986
TI Hydrazinolysis-N-reacetylation of glycopeptides and glycoproteins. II. Purification of oligosaccharides having a free reducing end from glycopeptide sources
AU Bendiak, Brad; Cumming, Dale A.
CS Res. Inst., Hosp. Sick Child., Toronto, ON, M5G 1X8, Can.
SO Carbohydrate Research (**1986**), 151, 89-103
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English
CC 34-4 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22, 33
AB A hydrazinolysis-N-reacetylation procedure, modified by the inclusion of a mild acid hydrolysis step after N-acetylation, was used to prepare, in overall yields of 60-70%, pure oligosaccharides containing a reducing D-GlcNAc residue from glycopeptide sources. Three types of **asparagine** -linked glycopeptides were treated: a **high-mannose** type, a complex-type containing sialic acid, and a complex-type containing sialic acid, linked both α-(2→3) and α-(2→6) to β-D-Galp residues. After the hydrazinolysis-N-reacetylation procedure, there was often contamination of the reducing oligosaccharides with glycopeptide that remained intact through the procedure, as well as minor oligosaccharide products, altered in the nature of the residue at the reducing end. Oligosaccharides having a reducing D-GlcNAc residue

were purified by standard liquid chromatog. and HPLC. NMR (360-MHz) was valuable in establishing common structural reporter signals which enabled major products to be identified at stages during the production of free reducing oligosaccharides, and their purity to be assessed.

ST hydrazinolysis reacetylation glycopeptide oligosaccharide

IT Hydrazinolysis
(-reacetylation, of glycopeptides, in oligosaccharide purification)

IT Acetylation
(hydrazinolysis-, of glycopeptides, in oligosaccharides purification)

IT Hydrolysis
(of glycopeptide acetylated hydrazine derivs., in oligosaccharide purification)

IT Glycopeptides
RL: RCT (Reactant); RACT (Reactant or reagent)
(oligosaccharides of, hydrazinolysis-reacetylation in purification of)

IT Oligosaccharides
RL: RCT (Reactant); RACT (Reactant or reagent)
(purification of free reducing, from glycopeptide sources, hydrazinolysis-reacetylation in)

IT 2776-93-4 67299-24-5 78836-79-0 105092-58-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrazinolysis-N-reacetylation of)

IT 97055-07-7P 105071-69-0P 105071-70-3P 105092-59-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acidic hydrolysis of)

IT 35061-50-8P **71246-55-4P** 71496-53-2P 83411-82-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

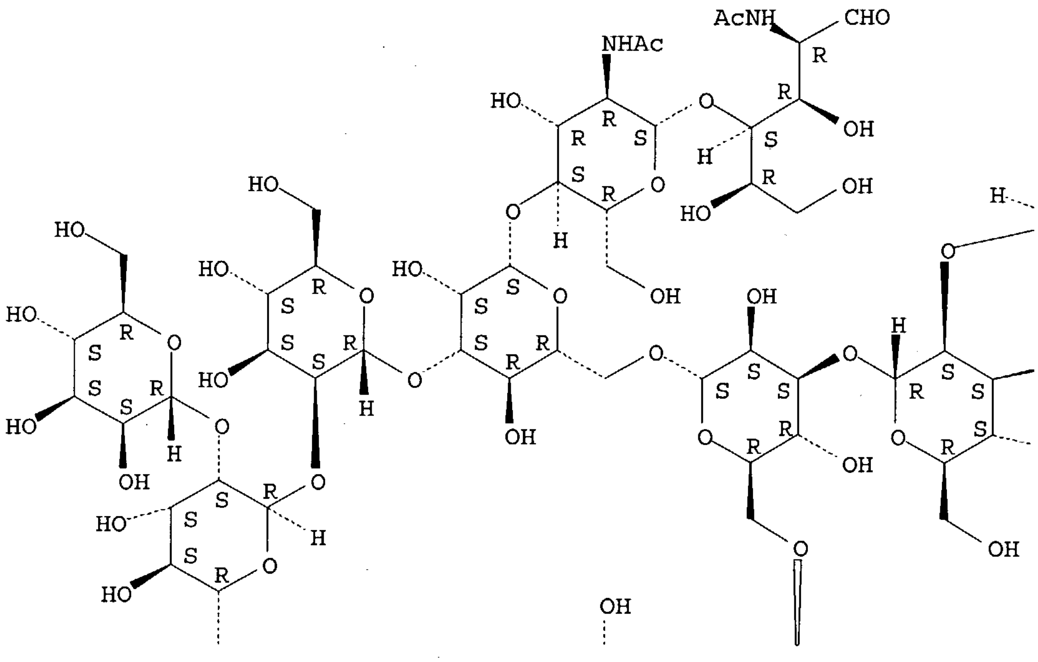
IT **71246-55-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 71246-55-4 HCAPLUS

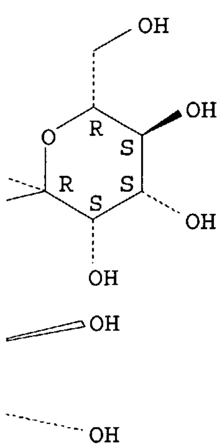
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

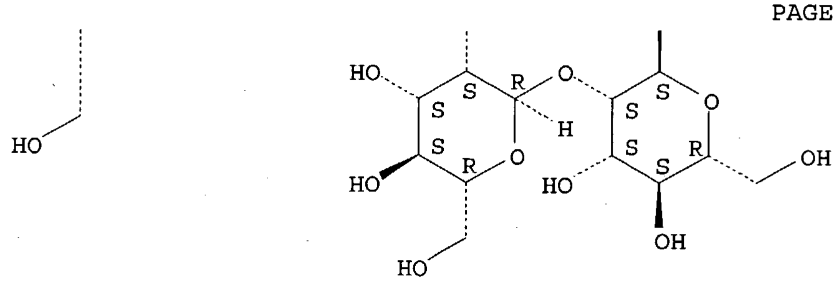
PAGE 1-A



PAGE 1-B



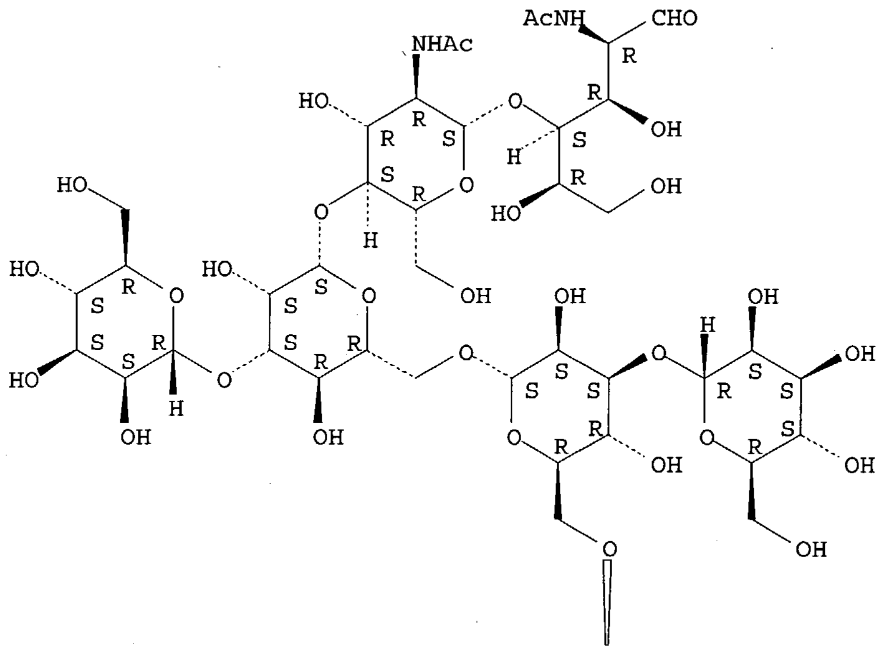
PAGE 2-A



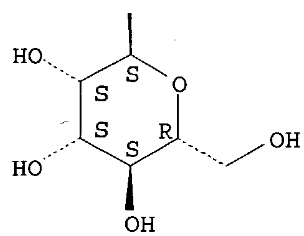
L91 ANSWER 36 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:574622 HCAPLUS
DN 103:174622
ED Entered STN: 30 Nov 1985
TI Characterization by nuclear magnetic resonance of the concanavalin A binding oligosaccharide on the βb chain of placental β-hexosaminidase B: lectin binding to the separated polypeptide chains of hexosaminidases A and B
AU O'Dowd, Brian F.; Mahuran, Don; Cumming, Dale; Lowden, J. Alexander
CS Res. Inst., Hosp. Sick Child., Toronto, ON, M5G 1X8, Can.
SO Canadian Journal of Biochemistry and Cell Biology (**1985**), 63(7), 723-9
CODEN: CJBBDU; ISSN: 0714-7511
DT Journal
LA English
CC 7-5 (Enzymes)
AB The type and distribution of the oligosaccharides on each polypeptide of human placental β-hexosaminidases A [subunit and chain structure, α(βaβb)] and B [2(βaβb)] were examined The denatured polypeptides were separated by isoelec. focusing in a polyacrylamide slab gel and each gel was then overlaid with 125I-labeled lectins. The βa chain contains negligible carbohydrate, the βb chain contains both the **high-mannose**- and a complex-type oligosaccharide, and the α chain contains predominantly **high -mannose**- or hybrid-type moieties. Two **asparagine** -linked **high-mannose**-type oligosaccharides present on the βb polypeptide of β-hexosaminidase B were isolated by Con A chromatog. and by reverse-phase HPLC. 1H NMR characterization of the oligosaccharides revealed an equimolar glycan mixture of the **high-mannose** (Man)-type structure Man5 and Man6.
ST oligosaccharide structure beta hexosaminidase placenta
IT Molecular structure, natural product
(of **asparagine**-linked oligosaccharides, of β-hexosaminidases of human placenta)
IT Placenta
(β-hexosaminidases of, of human, structure of **asparagine** -linked oligosaccharides of)
IT Oligosaccharides
RL: BIOL (Biological study)
(B, of β-hexosaminidase, of human placenta)
IT Oligosaccharides
RL: BIOL (Biological study)
(mannose-containing, of β-hexosaminidase B, of human placenta)
IT 9012-33-3
RL: BIOL (Biological study)
(A and B, **asparagine**-linked oligosaccharides of, of human placenta, structure of)
IT **66091-47-2 77355-54-5**
RL: BIOL (Biological study)
(of β-hexosaminidase B, of human placenta)
IT **66091-47-2 77355-54-5**
RL: BIOL (Biological study)
(of β-hexosaminidase B, of human placenta)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

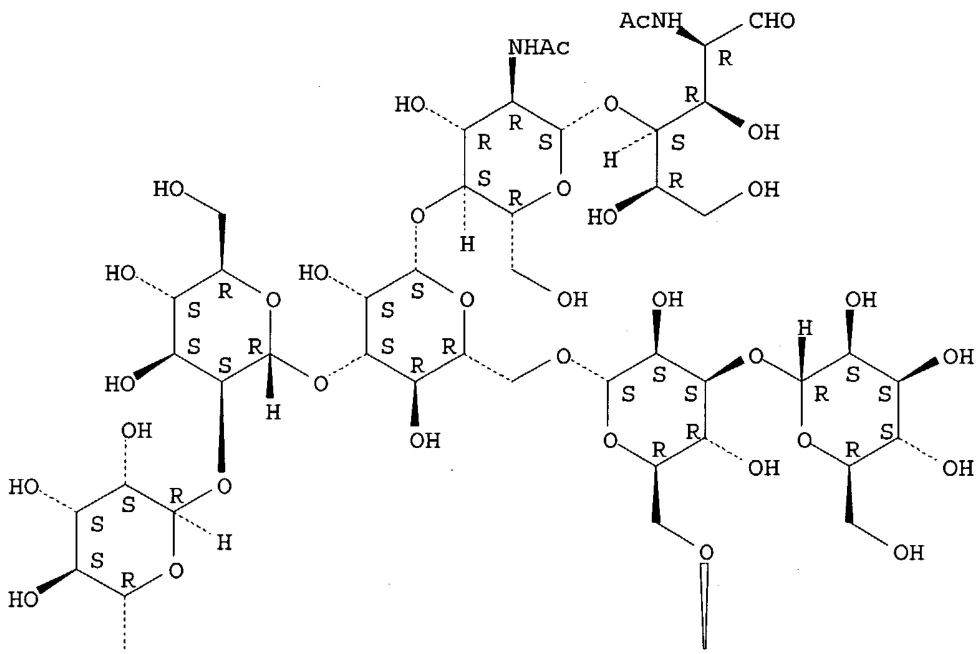


RN 77355-54-5 HCAPLUS

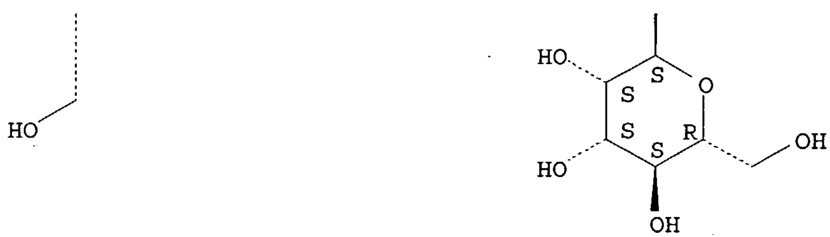
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



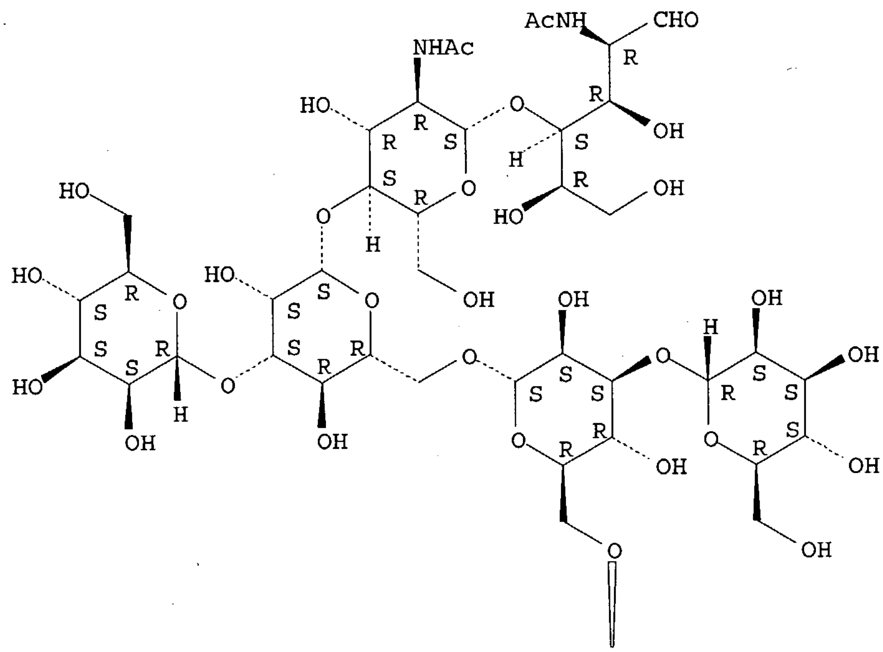
L91 ANSWER 37 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1985:521078 HCAPLUS
DN 103:121078
ED Entered STN: 19 Oct 1985
TI Comparative study of the oligosaccharides of human thyroglobulins obtained from normal subjects and patients with various diseases
AU Hotta, Taeko; Ishii, Ikuko; Ishihara, Hideko; Tejima, Setsuzo; Tarutani, Osamu; Takahashi, Noriko
CS Med. Sch., Nagoya City Univ., Nagoya, 467, Japan
SO Journal of Applied Biochemistry (**1985**), 7(2), 98-103
CODEN: JABIDV; ISSN: 0161-7354
DT Journal
LA English
CC 14-8 (Mammalian Pathological Biochemistry)
AB **Asparagine**-linked oligosaccharides were released quant. by N-oligosaccharide glycopeptidase (almond) digestion from human thyroglobulins prepared from thyroid glands of normal subjects and patients with several pathol. conditions. The pyridylamino derivs. of the oligosaccharides were prepared and analyzed by HPLC. The content of **high-mannose**-type oligosaccharides was comparable to

that of the complex type in normal thyroglobulins. Man9GlcNAc2 was the predominant component in the **high-mannose**-type region, while biantennary oligosaccharides with fucose were the major components in the complex-type region. **High-mannose**-type oligosaccharides were markedly decreased in thyroglobulins prepared from patients with various disorders, such as Basedow's disease, papillary carcinoma, and adenomatous goiter, whereas they were appreciably increased in thyroglobulin from diffuse goiter.

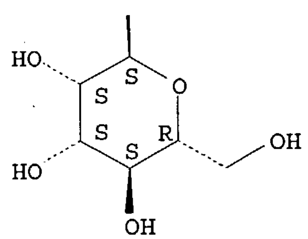
ST oligosaccharide thyroglobulin thyroid disease
IT Oligosaccharides
RL: BIOL (Biological study)
(of thyroglobulins, in thyroid diseases, in humans)
IT Goiter
(oligosaccharides of thyroglobulins in subtypes of, in humans)
IT Graves' disease
Thyroid gland, disease or disorder
(oligosaccharides of thyroglobulins in, in humans)
IT Thyroglobulins
RL: BIOL (Biological study)
(oligosaccharides of, in thyroid diseases in humans)
IT Carcinoma
(papillary, oligosaccharides of thyroglobulins in, of thyroid gland of humans)
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 84182-22-9
RL: BIOL (Biological study)
(of thyroglobulins, in thyroid diseases, in humans)
IT **66091-47-2 71246-55-4 77036-51-2**
77355-54-5 84182-22-9
RL: BIOL (Biological study)
(of thyroglobulins, in thyroid diseases, in humans)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



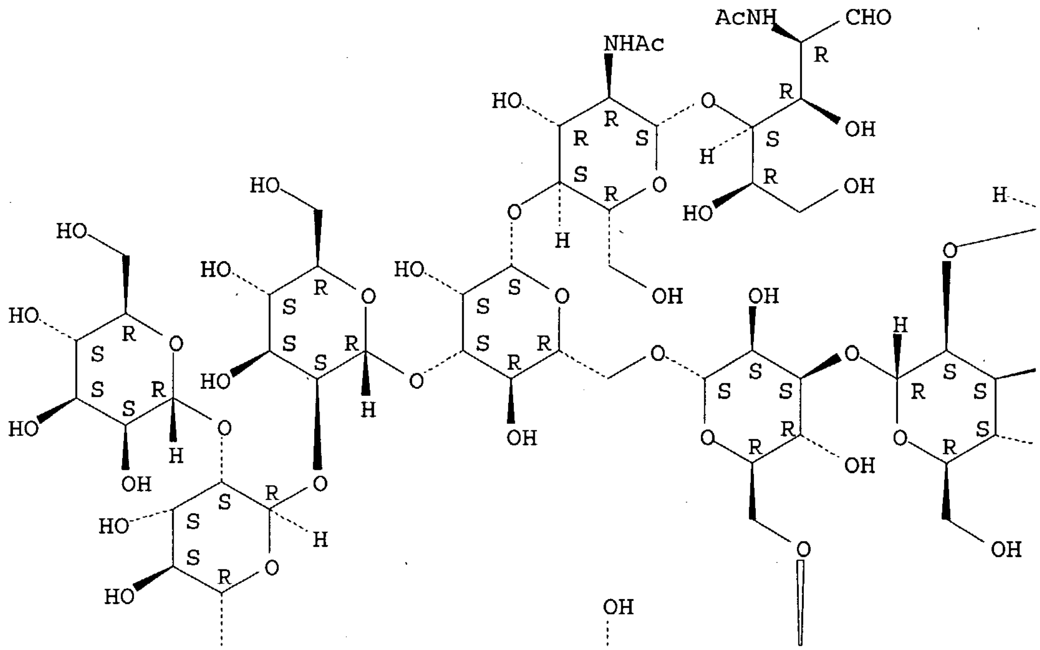
PAGE 2-A



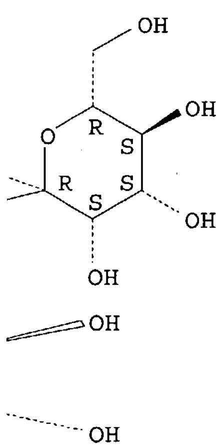
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

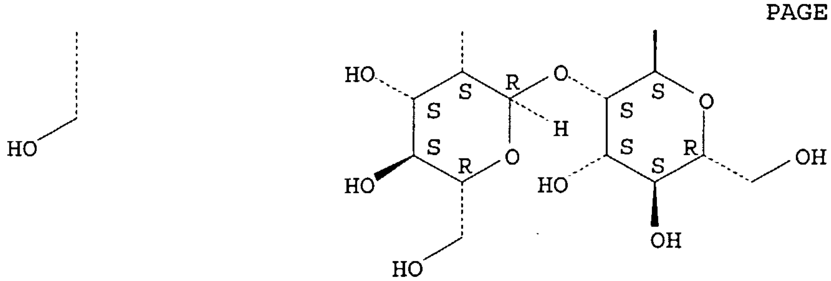
PAGE 1-A



PAGE 1-B



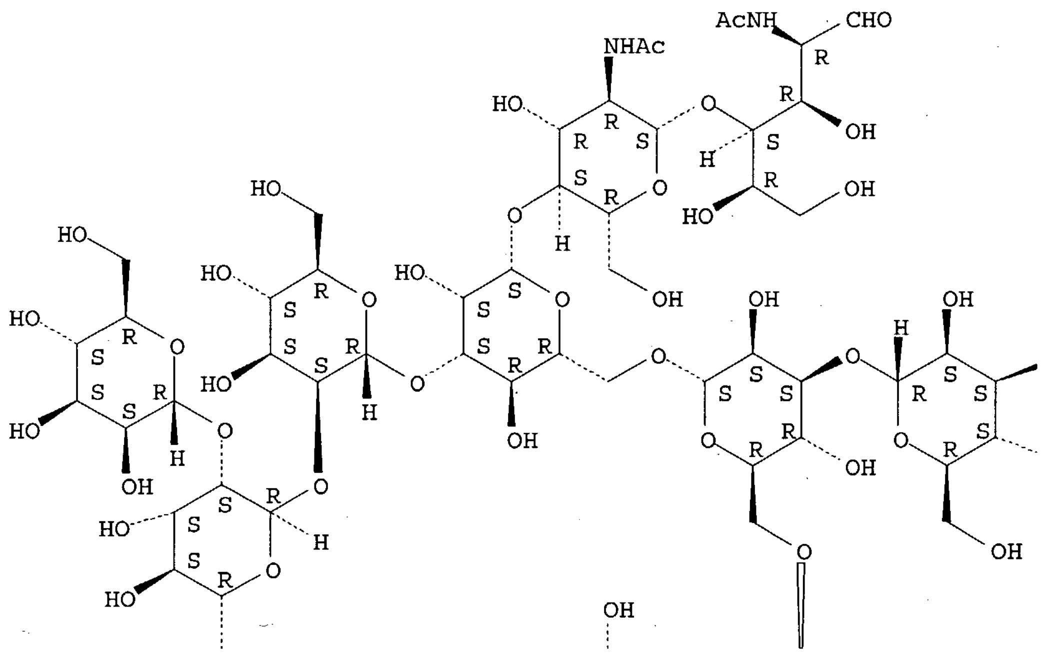
PAGE 2-A



RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

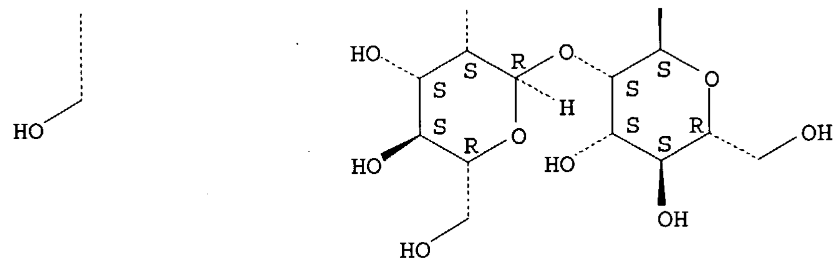
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A

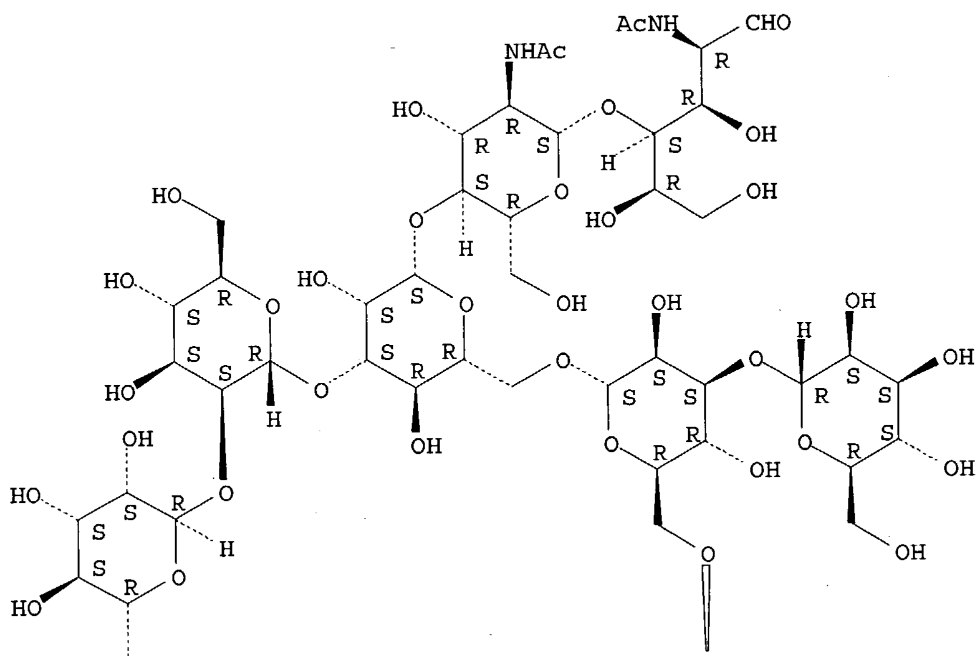


RN 77355-54-5 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

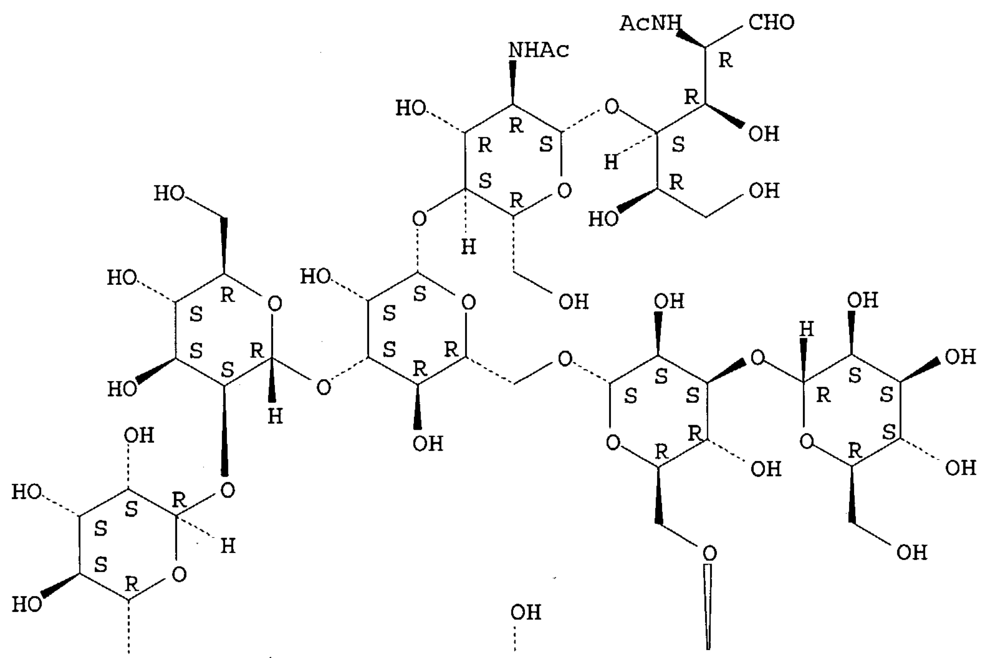


PAGE 2-A

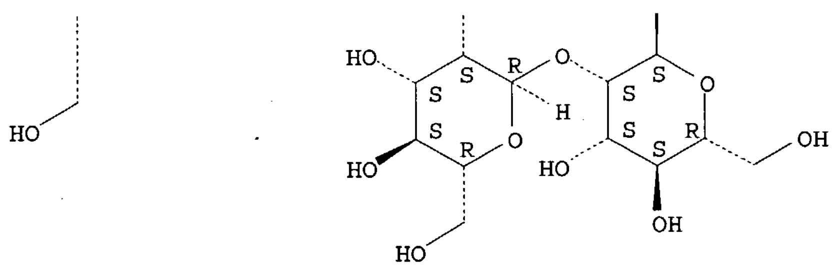
RN 84182-22-9 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

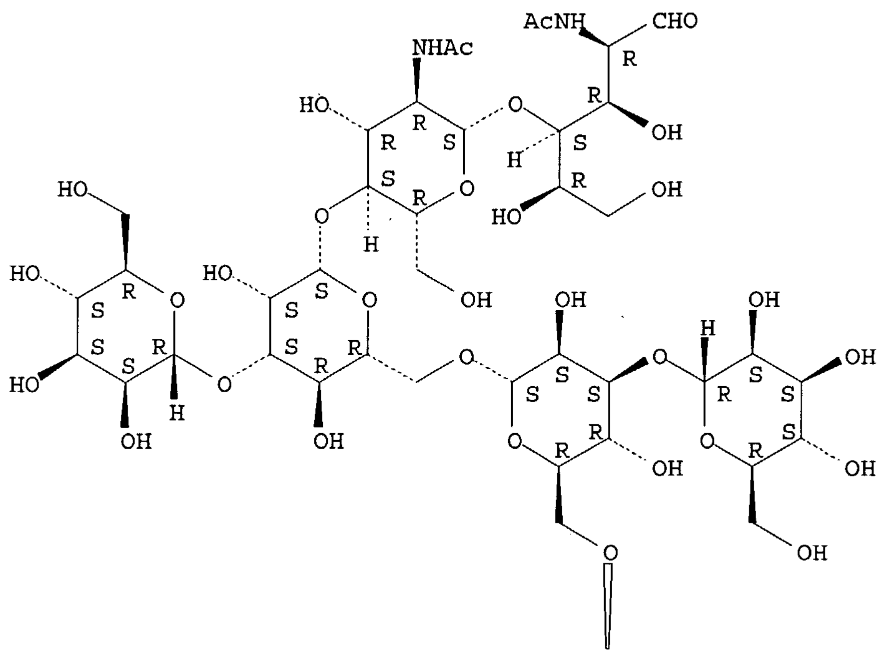


L91 ANSWER 38 OF 46 HCAPLUS
AN 1985:2563 HCAPLUS
DN 102:2563
ED Entered STN: 12 Jan 1985
TI Structure of the N-**asparagine**-linked oligosaccharide units of human placental β-glucocerebrosidase
AU Takasaki, Seiichi; Murray, Gary J.; Furbish, F. Scott; Brady, Roscoe O.; Barranger, John A.; Kobata, Akira
CS Sch. Med., Kobe Univ., Kobe, Japan

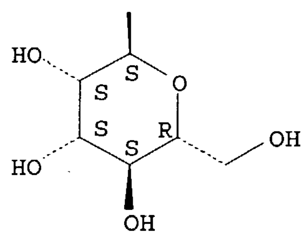
SO Journal of Biological Chemistry (**1984**), 259(16), 10112-17
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 7-5 (Enzymes)
Section cross-reference(s): 6
AB The N-**asparagine**-linked oligosaccharide chains of homogeneous human placental β-glucocerebrosidase were released by hydrazinolysis, and their structures were analyzed. The sequence of sugars, linkage, and anomeric configuration of the glycosidic bonds were determined Approx. 20% of the released sugar chain was of the typical **high-mannose** type. The balance was of complex type with biantennary and triantennary structures. Trisialylated oligosaccharide was detected as a major component.
ST glucocerebrosidase beta oligosaccharide structure placenta
IT Oligosaccharides
RL: BIOL (Biological study)
(**asparagine**-linked, of β-glucocerebrosidase of human placenta, structure of)
IT Placenta
(β-glucocerebrosidase of, of human, structure of oligosaccharides of)
IT **66091-47-2 78392-29-7 78392-30-0** 93375-82-7
93375-83-8 93375-84-9 93382-88-8 93382-89-9 93382-90-2
93382-91-3 93395-37-0 93395-38-1 93451-60-6 93451-61-7
RL: BIOL (Biological study)
(of β-glucocerebrosidase, of human placenta)
IT 37228-64-1
RL: BIOL (Biological study)
(oligosaccharides of, of human placenta, structure of)
IT **66091-47-2 78392-29-7 78392-30-0**
RL: BIOL (Biological study)
(of β-glucocerebrosidase, of human placenta)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



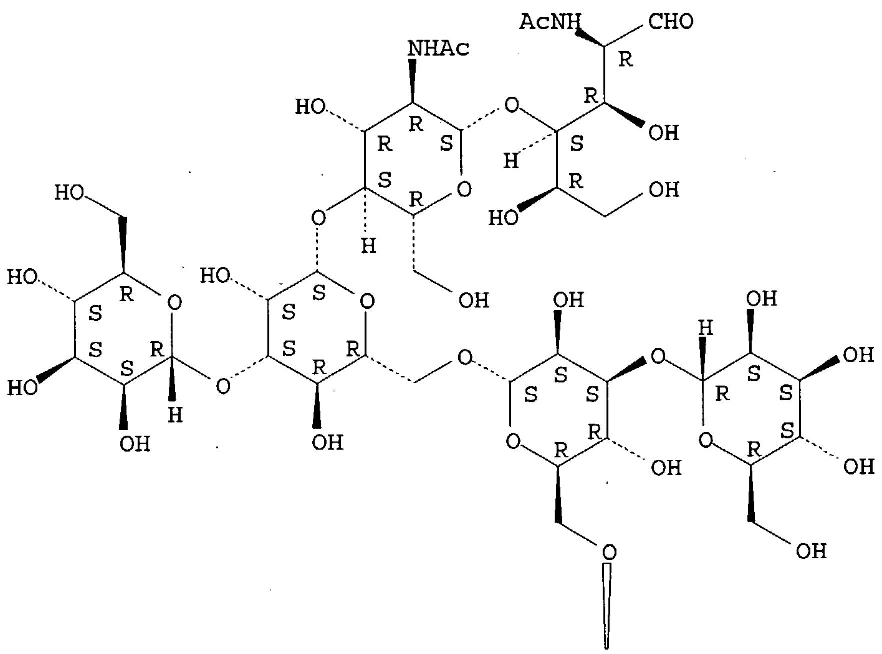
RN 78392-29-7 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, mono-α-D-mannopyranoside (9CI) (CA INDEX NAME)

CM 1

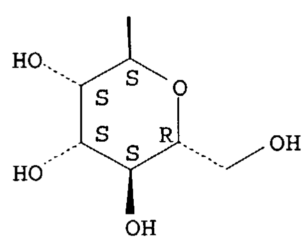
CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



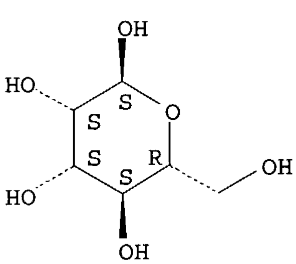
PAGE 2-A



CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



RN 78392-30-0 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-

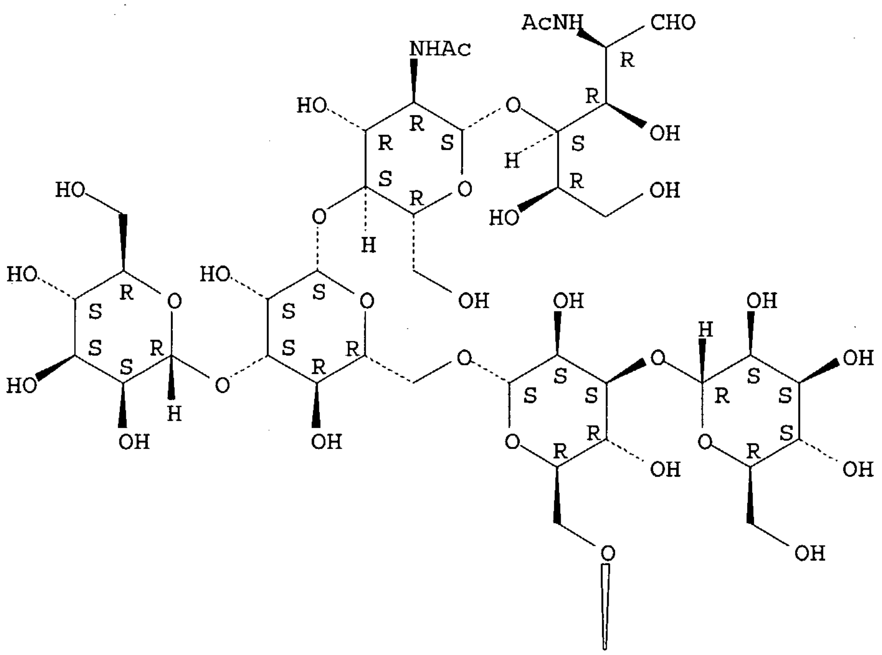
mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-
α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-
(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-
(1→4)-2-(acetylamino)-2-deoxy-, di-α-D-mannopyranoside (9CI)
(CA INDEX NAME)

CM 1

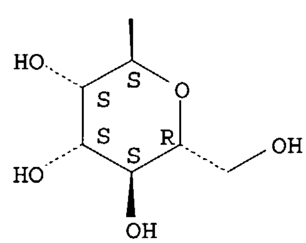
CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



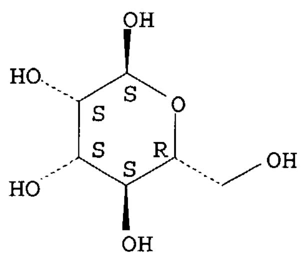
PAGE 2-A



CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



L91 ANSWER 39 OF 46 HCAPLUS
AN 1984:119088 HCAPLUS
DN 100:119088
ED Entered STN: 12 May 1984
TI Processing of MOPC 315 immunoglobulin A oligosaccharides: evidence for endoplasmic reticulum and trans Golgi α1,2-mannosidase activity
AU Hickman, Scot; Theodorakis, Janice L.; Greco, Jeanne M.; Brown, Peter H.
CS Div. Hematol. Oncol., Jew. Hosp. St. Louis, St. Louis, MO, 63110, USA
SO Journal of Cell Biology (**1984**), 98(2), 407-16
CODEN: JCLBA3; ISSN: 0021-9525
DT Journal
LA English
CC 15-3 (Immunochemistry)
AB The processing of **asparagine**-linked oligosaccharides on the α-chains of an IgA was investigated using MOPC 315 murine plasmacytoma cells. These cells secrete IgA containing complex-type oligosaccharides that were not sensitive to endo-β-N-acetylglucosaminidase H. In contrast, oligosaccharides present on the intracellular α-chain precursor were of the **high mannose**-type, remaining sensitive to endo-β-N-acetylglucosaminidase H despite a long intracellular half-life of 2-3 h. The major [3H]mannose-labeled α-chain oligosaccharides identified after a 20-min pulse were Man8GlcNAc2 and Man9GlcNAc2. Following chase incubations, the major oligosaccharide accumulating intracellularly was Man6GlcNAc2, which contained a single α1,2-linked mannose residue. Conversion of Man6GlcNAc2 to complex-type oligosaccharides occurred at the time of secretion since appreciable amts. of Man5GlcNAc2 or further processed structures could not be detected intracellularly. The subcellular locations of the α1,2-mannosidase activities were studied using carbonyl cyanide m-chlorophenylhydrazone and monesin. Despite inhibiting the secretion of IgA, these inhibitors of protein migration did not affect the initial processing of Man9GlcNAc2 to Man6GlcNAc2. Furthermore, no large accumulation of Man5GlcNAc2 occurred, indicating the presence of 2 subcellular locations of α1,2-mannosidase activity involved in oligosaccharide processing in MOPC 315 cells. Thus, the first 3 α1,2-linked mannose residues were removed shortly after the α-chain was glycosylated, most likely in rough endoplasmic reticulum, since this processing occurred in the presence of carbonyl cyanide m-chlorophenylhydrazone. However, the removal of the final α1,2-linked mannose residue as well as subsequent carbohydrate processing occurred just before IgA secretion, most likely in the trans Golgi complex since processing of Man6GlcNAc2 to Man5GlcNAc2 was greatly inhibited in the presence of monensin.
ST IgA oligosaccharide processing mannosidase; endoplasmic reticulum IgA oligosaccharide processing; Golgi body IgA oligosaccharide processing
IT Endoplasmic reticulum
Golgi apparatus
(mannosidase of, IgA heavy chain oligosaccharides processing by)
IT Immunoglobulins
RL: BIOL (Biological study)

(A, oligosaccharides of heavy chain of, processing of, mannosidase of endoplasmic reticulum and Golgi body in)

IT Oligosaccharides
RL: BIOL (Biological study)
(**asparagine**-linked, processing of, of IgA heavy chain, mannosidase of endoplasmic reticulum and Golgi body in)

IT **66091-47-2 71246-55-4 77355-54-5**
RL: BIOL (Biological study)
(IgA heavy chain oligosaccharides processing in relation to)

IT **77036-51-2**
RL: BIOL (Biological study)
(IgA oligosaccharides processing in relation to)

IT 9068-25-1
RL: BIOL (Biological study)
(of endoplasmic reticulum and Golgi body, IgA oligosaccharides processing by)

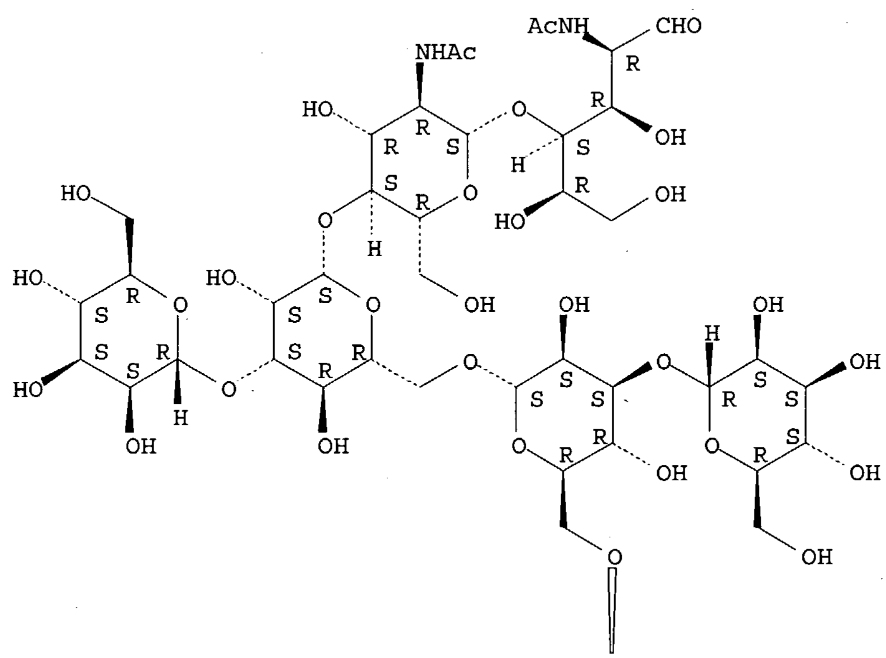
IT **66091-47-2 71246-55-4 77355-54-5**
RL: BIOL (Biological study)
(IgA heavy chain oligosaccharides processing in relation to)

RN 66091-47-2 HCAPLUS

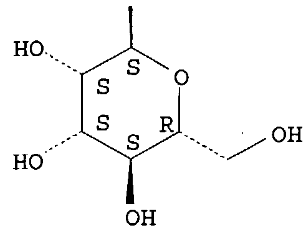
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



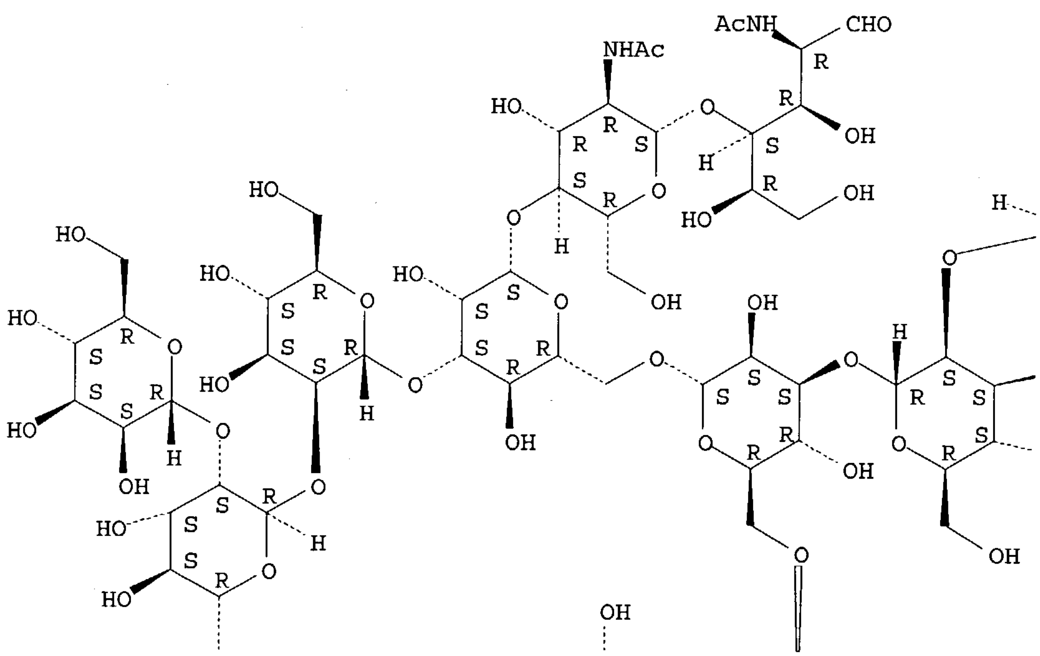
PAGE 2-A



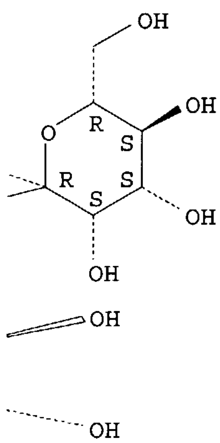
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

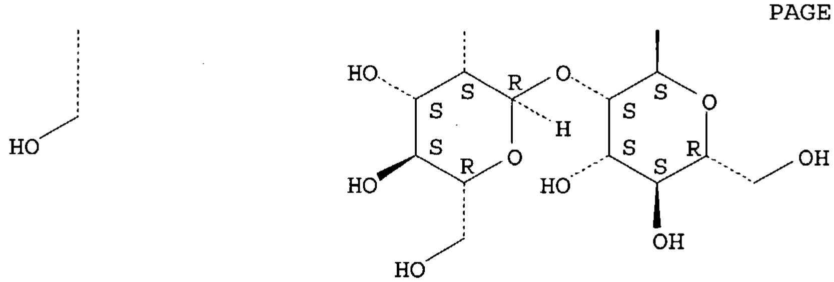
PAGE 1-A



PAGE 1-B



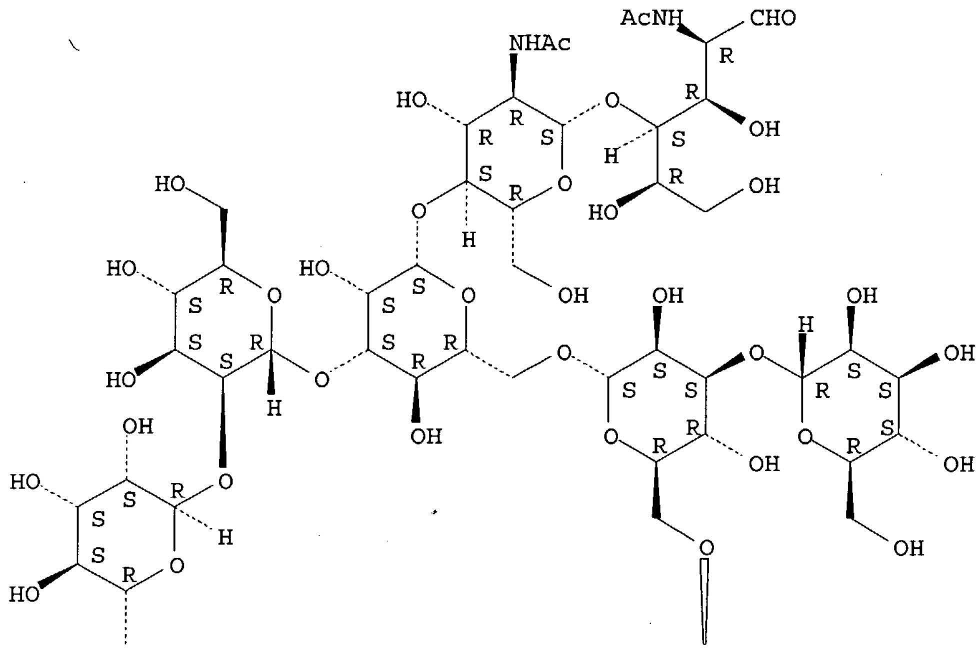
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

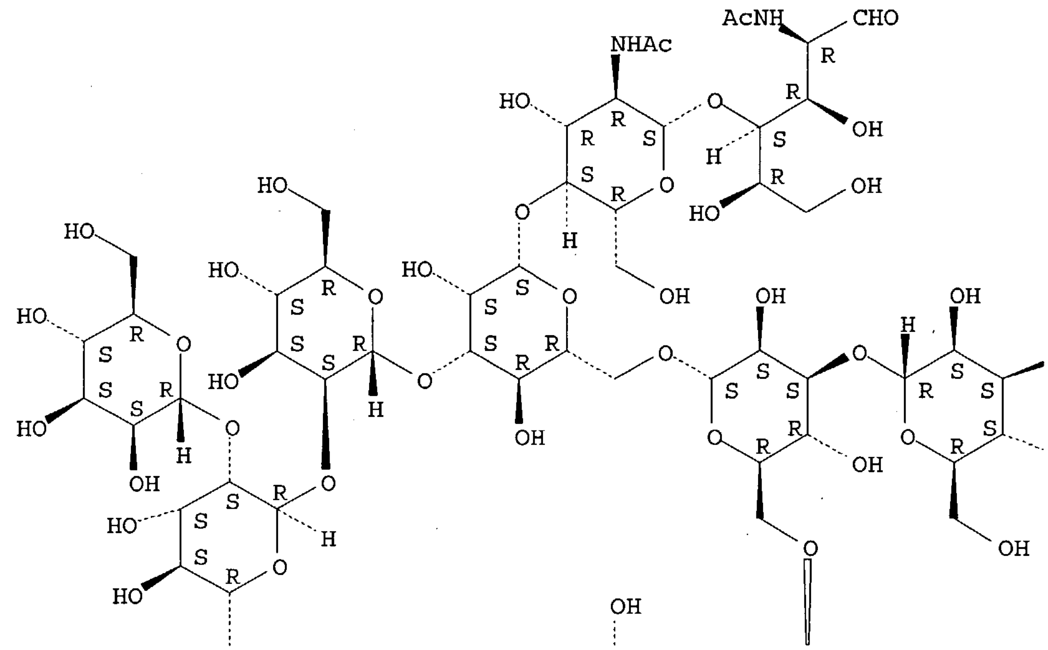


PAGE 2-A

IT **77036-51-2**
RL: BIOL (Biological study)
(IgA oligosaccharides processing in relation to)
RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

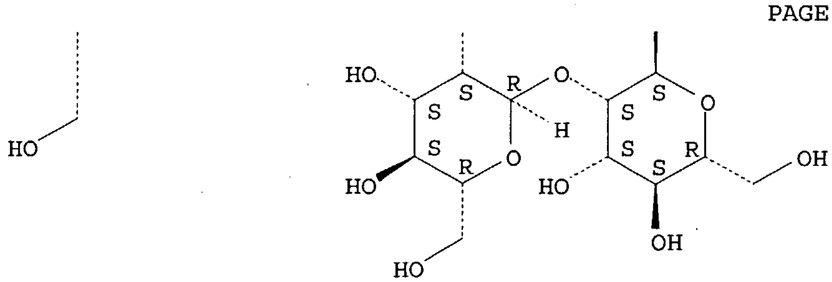
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A



L91 ANSWER 40 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1984:63704 HCAPLUS
DN 100:63704
ED Entered STN: 12 May 1984
TI Structural studies on glycoprotein oligosaccharides of chromaffin granule membranes and dopamine β-hydroxylase
AU Margolis, Renee K.; Finne, Jukka; Krusius, Tom; Margolis, Richard U.
CS Downstate Med. Cent., State Univ. New York, Brooklyn, NY, 11203, USA
SO Archives of Biochemistry and Biophysics (**1984**), 228(2), 443-9
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 7
AB Dopamine β-hydroxylase (I) present in the soluble matrix of bovine adrenal medullary chromaffin granules contains biantennary complex oligosaccharides and **high-mannose** oligosaccharides in a molar ratio of .apprx.2:1. The **high-mannose** oligosaccharides contain an average of 6 mannose residues. The largest biantennary oligosaccharides (40% of the total) have 2 complete peripheral branches consisting of sialic acid-galactose-N-acetylglucosamine, but an equal proportion lack sialic acid on 1 branch and the remainder lack N-acetylglucosamine and(or) galactose. Affinity chromatog. on lentil lectin-agarose demonstrated that 84% of the I biantennary oligosaccharides are substituted by fucose on the core N-acetylglucosamine, which is linked to **asparagine.** Based on carbohydrate concentration and the proportions of biantennary and **high-mannose** oligosaccharides, the 4 I subunits of 75,000 mol. weight apparently are not identical with respect to their oligosaccharide moieties. In chromaffin granule membranes, **high-mannose** and biantennary oligosaccharides comprise 20 and 35%, resp., of the glycoprotein carbohydrate. Almost 40% is present in the form of large complex oligosaccharides with ≥3 antennas, <3% of which have both a core fucose residue and a 2,6-substituted α-linked mannose residue. Chromaffin granule membranes also contain a small proportion (.apprx.6%) of O-glycosidically linked glycoprotein oligosaccharides which are predominantly monosialyl derivs. of galactosyl-N-acetylgalactosamine. The ratio of N-acetyl- to N-glycolylneuraminic acid in I and the glycoproteins of chromaffin granule membranes is .apprx.1.5:1, which is within the same range as that previously found in membrane gangliosides and in the chromogranins isolated from the soluble granule matrix.
ST oligosaccharide structure glycoprotein chromaffin granule; dopamine hydroxylase oligosaccharide structure
IT Adrenal medulla
(dopamine β-hydroxylase and membranes of chromaffin granules of, structure of glycoprotein oligosaccharides of)
IT Oligosaccharides
RL: BIOL (Biological study)
(of chromaffin granule membranes and dopamine β-hydroxylase, structure of)
IT Sialoglycoproteins
RL: BIOL (Biological study)
(of chromaffin granule membranes, of adrenal medulla, structure of oligosaccharides of)
IT Molecular structure, natural product
(of oligosaccharides of dopamine β-hydroxylase and membranes of chromaffin granule)
IT Organelle
(chromaffin granule, glycoprotein oligosaccharides of dopamine β-hydroxylase and membranes of, of adrenal medulla, structure of)
IT Oligosaccharides

RL: BIOL (Biological study)
(mannose-containing, of dopamine β-hydroxylase, of chromaffin granule, structure of)

IT 9013-38-1
RL: BIOL (Biological study)
(of adrenal medulla chromaffin granules, oligosaccharides of, structure of)

IT **77355-54-5**
RL: BIOL (Biological study)
(of dopamine β-hydroxylase, of adrenal medulla chromaffin granules)

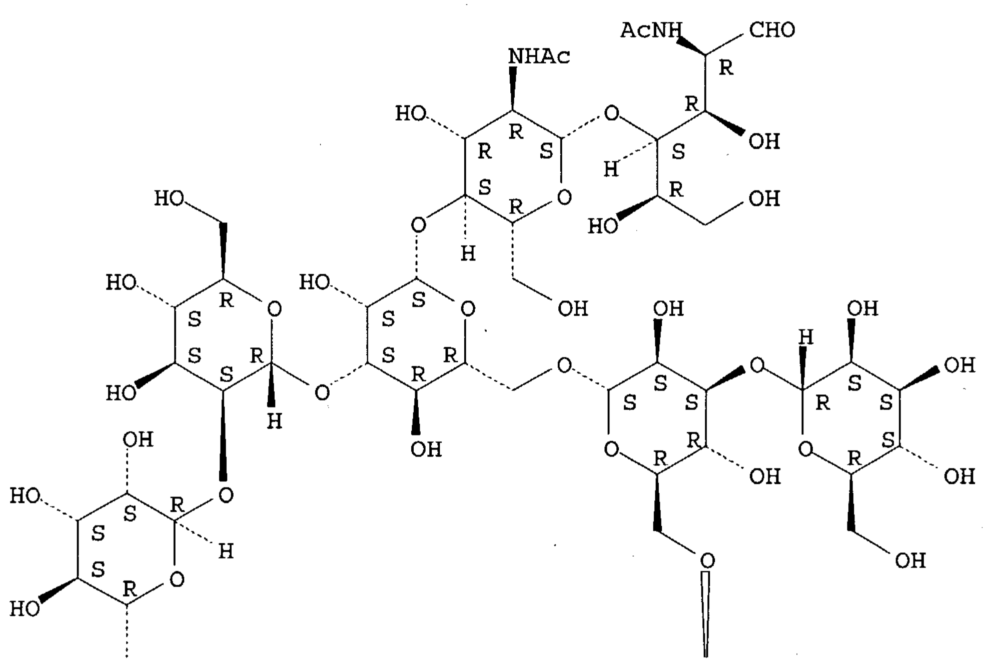
IT **77355-54-5**
RL: BIOL (Biological study)
(of dopamine β-hydroxylase, of adrenal medulla chromaffin granules)

RN 77355-54-5 HCAPLUS

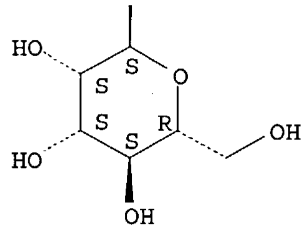
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



L91 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1984:18999 HCAPLUS
DN 100:18999
ED Entered STN: 12 May 1984
TI Swainsonine affects the processing of glycoproteins in vivo
AU Abraham, David J.; Sidebothom, Ramon; Winchester, Bryan G.; Dorling, Peter R.; Dell, Anne
CS Queen Elizabeth Coll., Univ. London, London, W8 7AH, UK
SO FEBS Letters (**1983**), 163(1), 110-13
CODEN: FEBLAL; ISSN: 0014-5793
DT Journal
LA English
CC 4-5 (Toxicology)
AB Rats, sheep and guinea pigs treated with swainsonine [72741-87-8] excrete **high mannose** oligosaccharides in the urine. The major rat and guinea pig oligosaccharide is (Man)5GlcNAc [74385-50-5], whereas sheep excrete a mixture of oligosaccharides of composition (Man)2-5GlcNAc2 and (Man)3-5GlcNAc. The presence of these oligosaccharides suggests that Golgi α-D-mannosidase II as well as lysosomal α-D-mannosidase is inhibited by swainsonine resulting in storage of abnormally processed **asparagine**-linked glycans from glycoproteins. Altered glycoprotein processing appears to have little effect on the health of the intoxicated animal, but the accompanying lysosomal storage produces a disease state.
ST swainsonine poisoning oligosaccharide urine; glycoprotein metab swainsonine poisoning
IT Poisoning
(by swainsonine, oligosaccharides of urine response to, glycoprotein metabolism in relation to)
IT Glycoproteins
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, swainsonine effect on, oligosaccharides of urine in relation to)
IT Oligosaccharides
RL: BIOL (Biological study)
(of urine, during swainsonine poisoning, glycoprotein metabolism in relation to)
IT Urine
(oligosaccharides of, during swainsonine poisoning, glycoprotein metabolism in relation to)
IT 60177-38-0 **66091-47-2** **70858-45-6** 74385-49-2
74385-50-5 81034-76-6
RL: BIOL (Biological study)
(of urine, during swainsonine poisoning, glycoprotein metabolism in relation to)
IT 72741-87-8
RL: BIOL (Biological study)
(poisoning by, glycoprotein metabolism response to)
IT **66091-47-2** **70858-45-6**

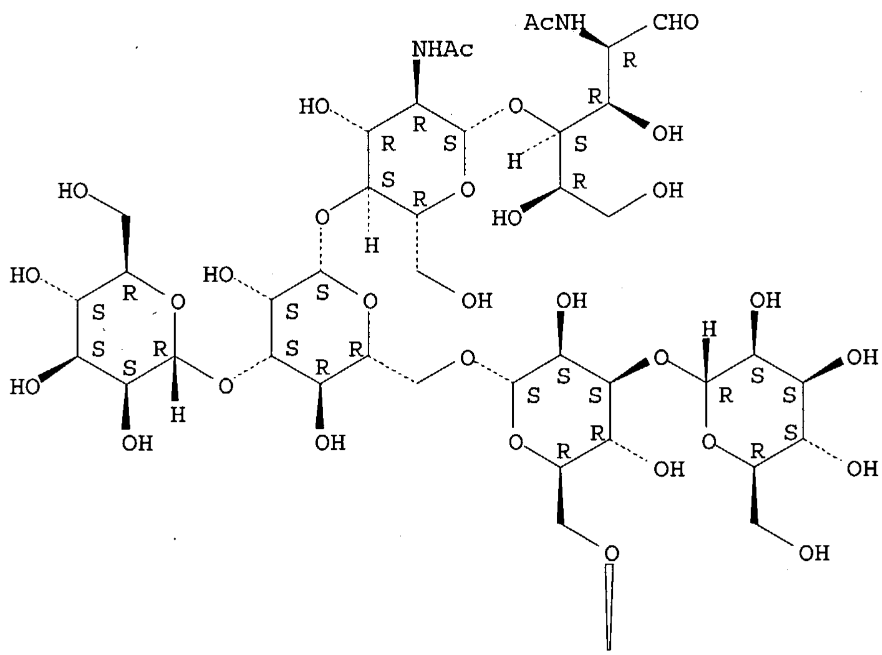
RL: BIOL (Biological study)
(of urine, during swainsonine poisoning, glycoprotein metabolism in relation to)

RN 66091-47-2 HCAPLUS

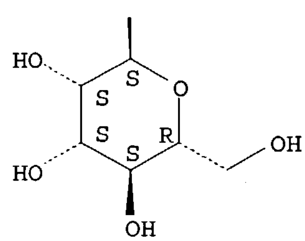
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



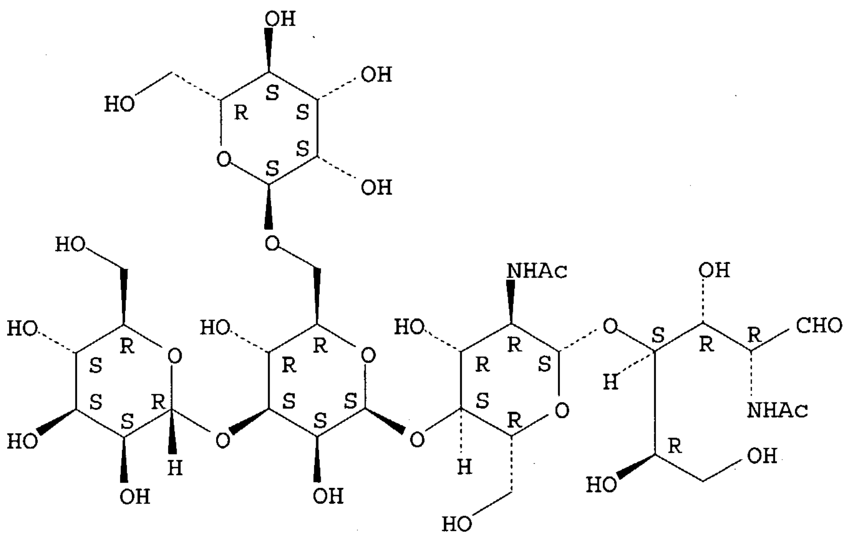
PAGE 2-A



RN 70858-45-6 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

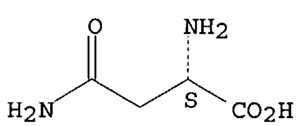
Absolute stereochemistry.



L91 ANSWER 42 OF 46 HCAPLUS
AN 1984:4518 HCAPLUS
DN 100:4518
ED Entered STN: 12 May 1984
TI Structures of the oligosaccharides present at the three **asparagine** -linked glycosylation sites of human IgD
AU Mellis, Scott J.; Baenziger, Jacques U.
CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA
SO Journal of Biological Chemistry (**1983**), 258(19), 11546-56
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 15-3 (Immunochemistry)
AB The complete amino acid sequence of the human myeloma IgD WAH has been determined and the sites of **asparagine** glycosylation identified as residues 354, 445, and 496 (Takahashi, N., et al., 1982). The structures of the oligosaccharides at each of these positions were determined **Asparagine** (**Asn** 354) bears oligosaccharides exclusively of the **high mannose** type containing from 5-9 mannose residues. Twenty per cent of the oligosaccharides at this site contain 1 glucose residue at the terminus of the branch emanating from the $\alpha 1 \rightarrow 3$-linked core mannose which is believed to reflect incomplete processing of the triglucosyl-**high mannose** oligosaccharide intermediate following transfer from dolichol to nascent peptide. **Asn** 445 and **Asn** 496 bear exclusively dibranched complex oligosaccharide structures; 30-40% of these mols. contain a bisecting GlcNAc-linked $\beta 1 \rightarrow 4$ to the innermost core mannose residue. At **Asn** 445, 40% of both the bisected and nonbisected oligosaccharides contain 1 residue of fucose on the **Asn**-linked GlcNAc and 50% bear a single N-acetylneuraminic acid residue. The oligosaccharides at **Asn** 496 are devoid of sialic acid and fucose. Thus, IgD WAH is notable for the presence of virtually unprocessed oligosaccharide structures (glucosylated **high mannose**) on the same peptide backbone as extensively processed complex type mols. The finding that each of the 3 **Asn** glycosylation sites of IgD WAH bears either exclusively a complex or a **high mannose** type oligosaccharide indicates that there is considerable specificity in the glycosylation process. These oligosaccharides, nonetheless, display extensive microheterogeneity at each location.

ST **asparagine** linked glycosylation IgD WAH; oligosaccharide structure IgD WAH
IT Glycosidation
(**asparagine**-linked sites for, of human IgD WAH, oligosaccharide structure at)
IT Oligosaccharides
RL: BIOL (Biological study)
(at **asparagine**-linked glycosylation sites, of human IgD WAH, structure of)
IT Protein sequences
(of IgD WAH, **asparagine**-linked oligosaccharide structures at glycosidation sites of, of human)
IT Immunoglobulins
(D WAH, **asparagine**-linked glycosylation sites of human, oligosaccharide structures at)
IT **70-47-3**, biological studies
RL: BIOL (Biological study)
(-linked glycosylation sites, of human IgD WAH, oligosaccharide structure determination of)
IT **66091-47-2** 68329-65-7 68329-66-8 **71246-55-4**
71799-82-1 75898-93-0 75898-94-1 76392-62-6 76397-74-5
77036-51-2 **77355-54-5** **77399-91-8**
83178-05-6 83562-97-4 83564-26-5 83564-27-6 83602-46-4
85188-33-6 **86746-87-4** **86746-88-5** 88007-08-3
88007-09-4 88070-66-0 88070-67-1 88070-68-2 88070-70-6
88089-12-7 88089-13-8
RL: BIOL (Biological study)
(at **asparagine**-linked glycosylation sites, of human IgD WAH, structure of)
IT **70-47-3**, biological studies
RL: BIOL (Biological study)
(-linked glycosylation sites, of human IgD WAH, oligosaccharide structure determination of)
RN 70-47-3 HCAPLUS
CN L-Asparagine (9CI) (CA INDEX NAME)

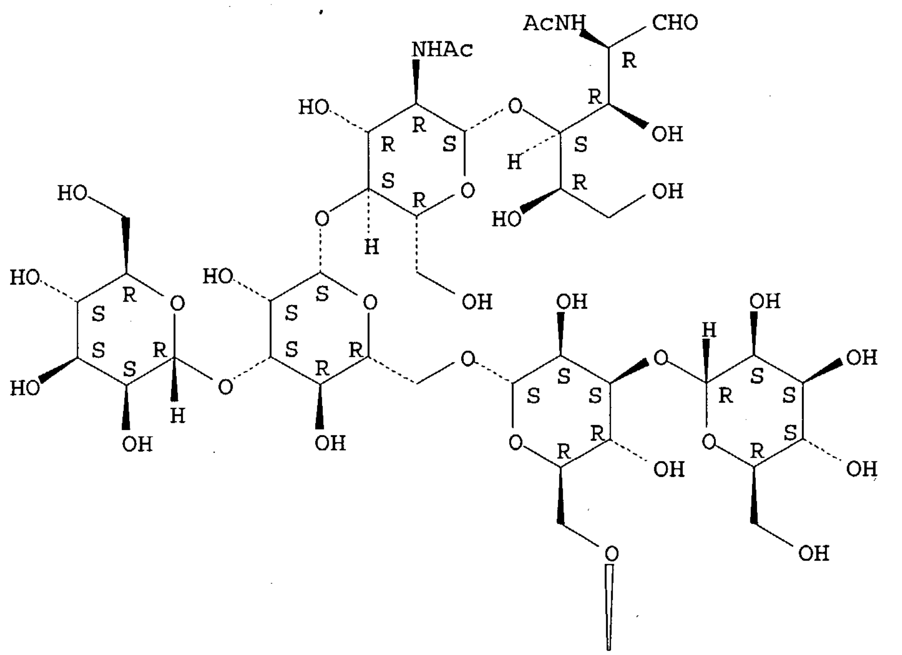
Absolute stereochemistry.



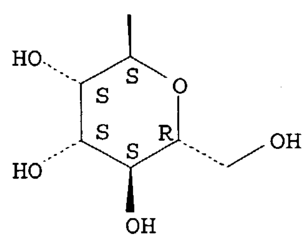
IT **66091-47-2** **71246-55-4** **77036-51-2**
77355-54-5 **77399-91-8** **83178-05-6**
86746-87-4 **86746-88-5**
RL: BIOL (Biological study)
(at **asparagine**-linked glycosylation sites, of human IgD WAH, structure of)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



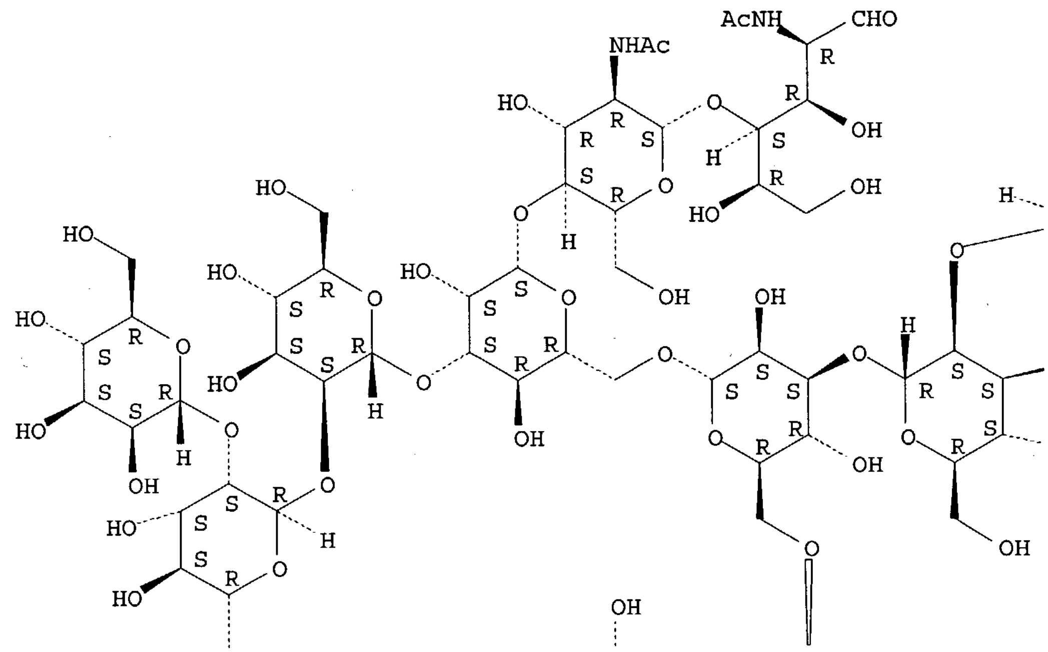
PAGE 2-A



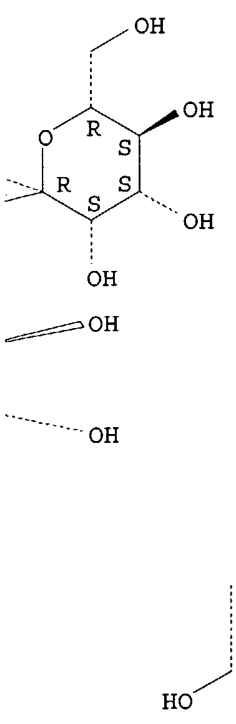
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

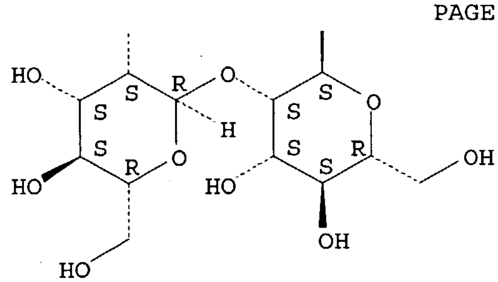
PAGE 1-A



PAGE 1-B



PAGE 2-A

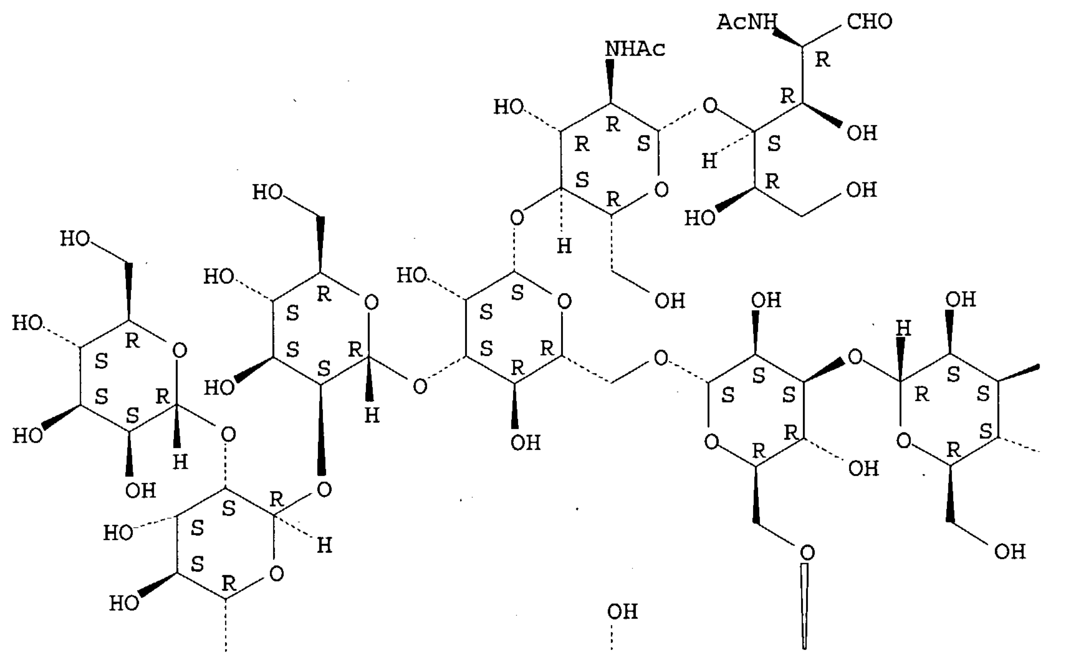


RN 77036-51-2 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

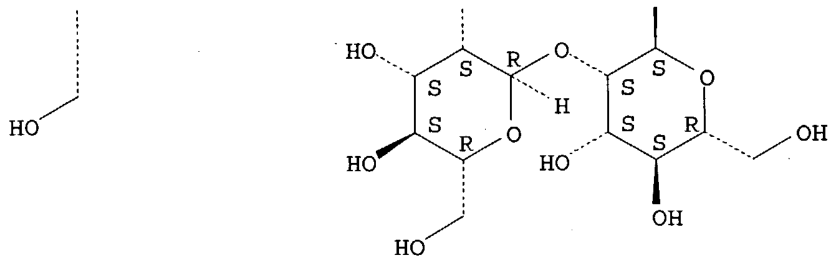
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

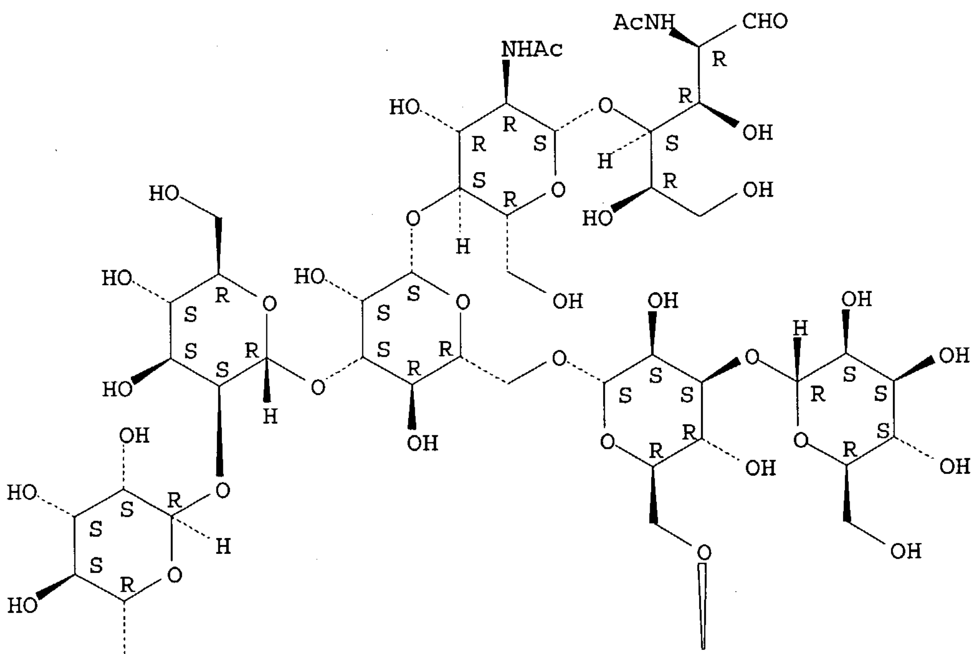
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

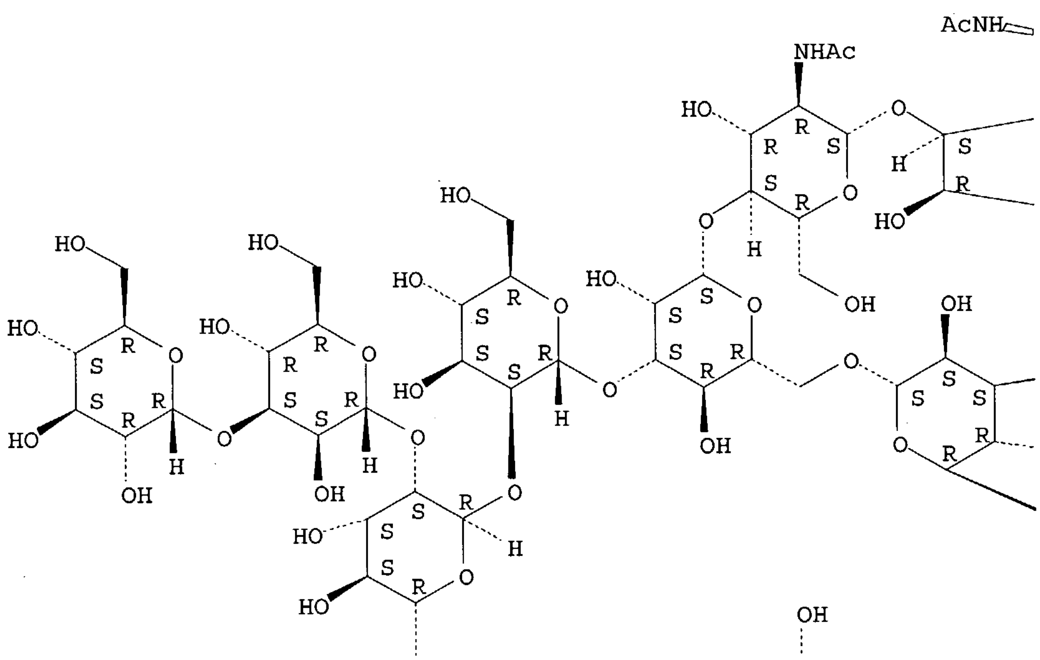


PAGE 2-A

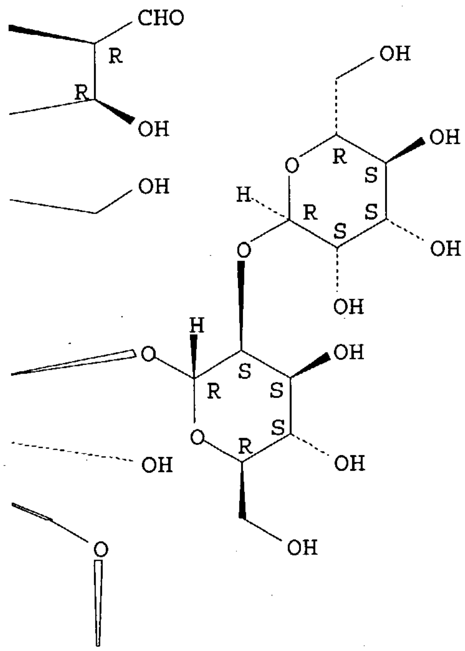
RN 77399-91-8 HCAPLUS
CN D-Glucose, O-α-D-glucopyranosyl-(1→3)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

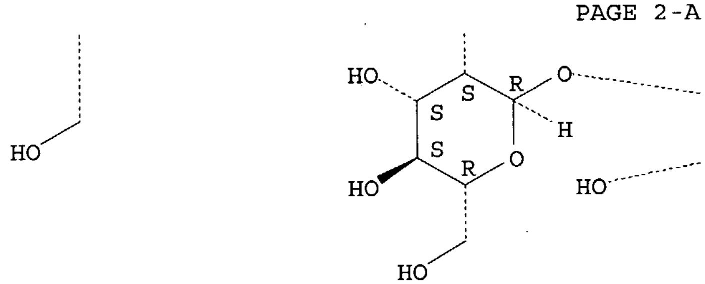
PAGE 1-A



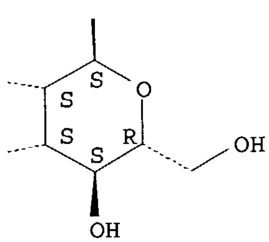
PAGE 1-B



PAGE 2-A



PAGE 2-B

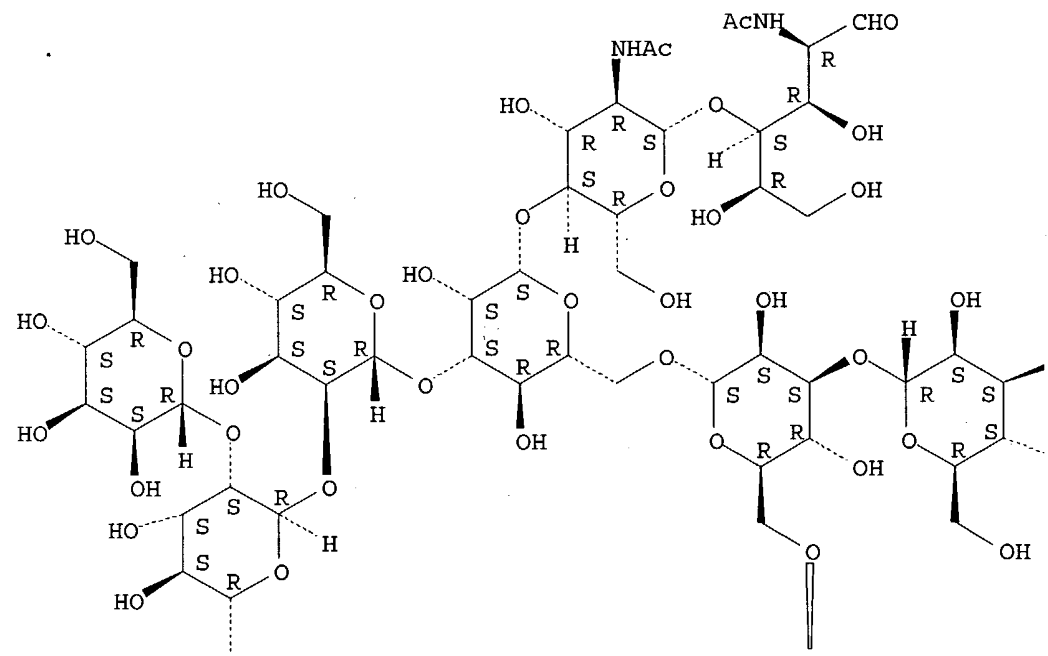


RN 83178-05-6 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



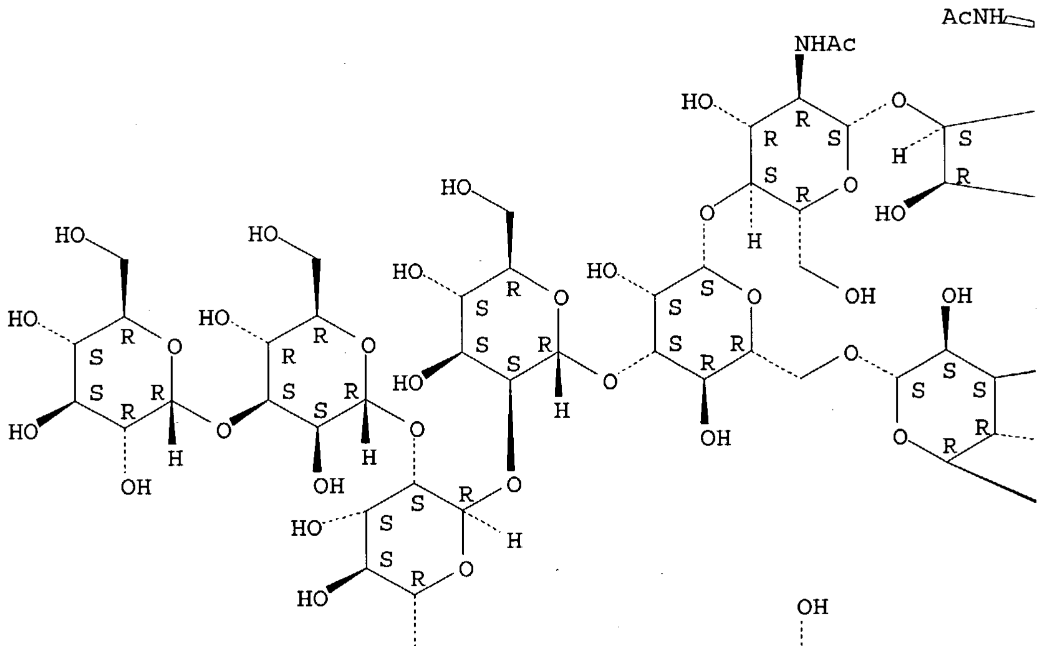
PAGE 1-B

PAGE 2-A

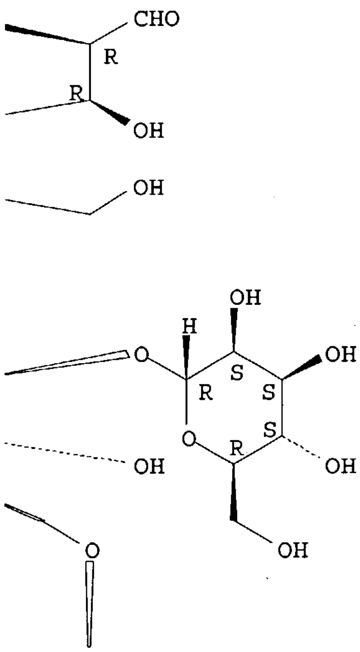
RN 86746-87-4 HCAPLUS
CN D-Glucose, O-α-D-glucopyranosyl-(1→3)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

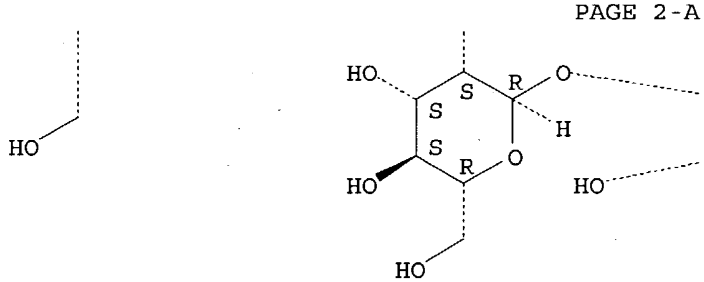
PAGE 1-A



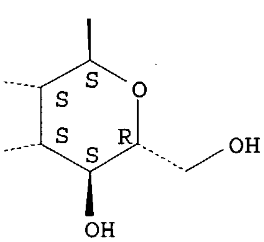
PAGE 1-B



PAGE 2-A



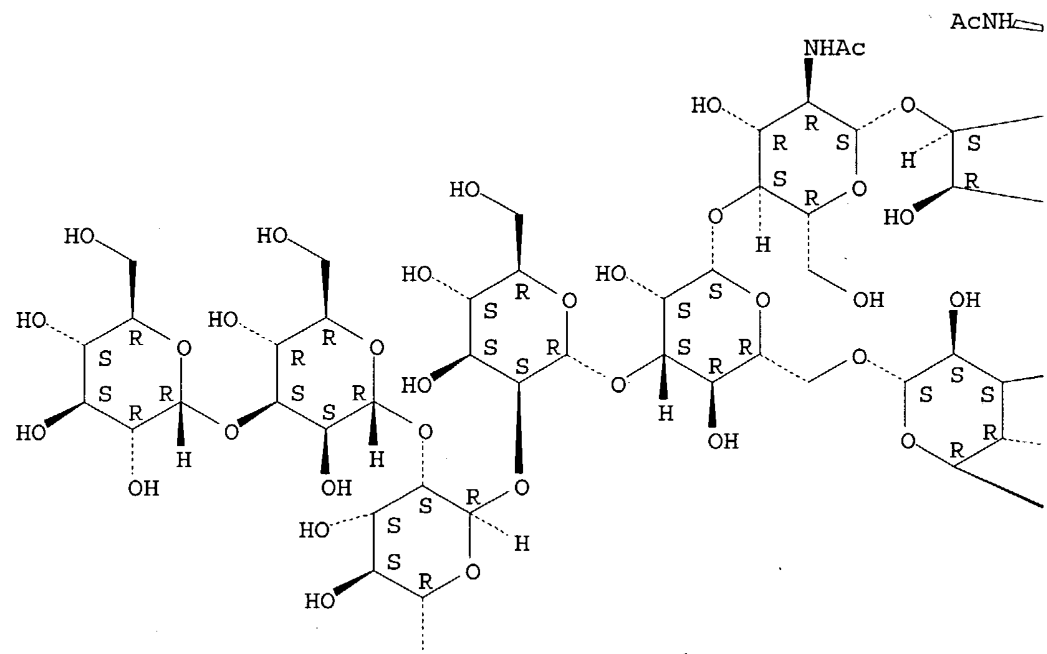
PAGE 2-B



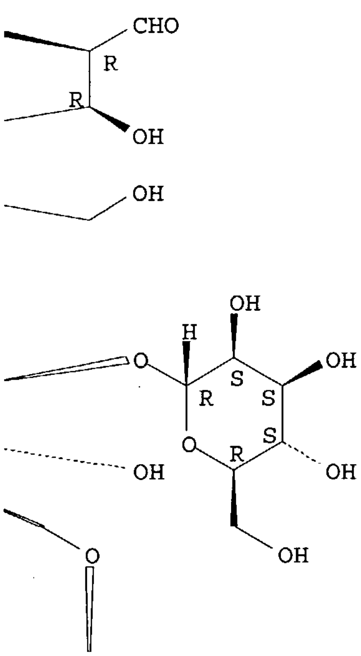
RN 86746-88-5 HCAPLUS
CN D-Glucose, O-α-D-glucopyranosyl-(1→3)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

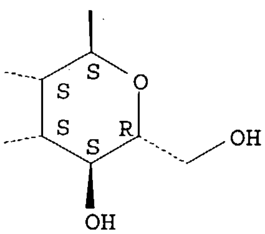


PAGE 1-B



PAGE 2-A

PAGE 2-B



L91 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1983:87359 HCAPLUS
DN 98:87359
ED Entered STN: 12 May 1984
TI Structure and location of **asparagine**-linked oligosaccharides in the Fc region of a human immunoglobulin D
AU Ishihara, Hideko; Tejima, Setsuzo; Takahashi, Noriko; Takayasu, Tatsunori; Shinoda, Tomotaka
CS Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan
SO Biochemical and Biophysical Research Communications (**1983**), 110(1), 181-6
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 15-3 (Immunochemistry)
AB Seven kinds of **asparagine**-linked oligosaccharides were bound to the Fc region of a human IgD (NIG-65). The oligosaccharides quant. released from 4 species of glycopeptides by digestion with almond glycopeptidase were separated by Bio-Gel p-4 column chromatog. and were purified further by thin-layer chromatog. The sugars were identified by gas chromatog.-mass spectroscopy following permethylation of the resp. oligosaccharides. Two kinds of **high-mannose**-type oligosaccharides were bound to **Asn**-168. A kind of hybrid-type and 2 kinds of bisected complex-type oligosaccharides were attached to **Asn** 159. From **Asn**-210, 4 kinds of bisected complex-type oligosaccharides were isolated.
ST IgD Fc **asparagine** linked oligosaccharide
IT Immunoglobulins
RL: BIOL (Biological study)
(D, Fc region of, **asparagine**-linked oligosaccharides in, of human, structure and location of)
IT Oligosaccharides
RL: PROC (Process)
(**asparagine**-linked, of human IgD Fc region, structure and location of)
IT **84632-69-9** 84632-70-2 84632-71-3 84632-72-4 84632-73-5
84632-74-6 84632-75-7 84632-76-8 84632-77-9 84632-78-0
84632-79-1 84632-80-4 **84643-40-3** 84643-41-4
84643-42-5 84643-43-6

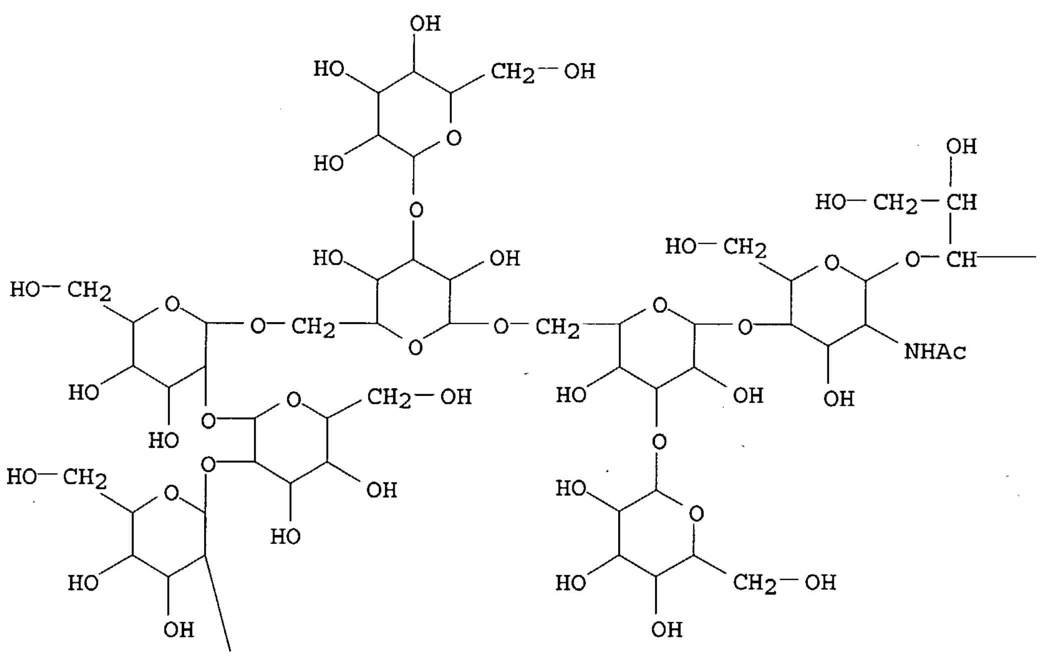
RL: BIOL (Biological study)
(**asparagine**-linked, of human IgD Fc region, structure and location of)

IT **84632-69-9 84632-74-6 84643-40-3**
84643-42-5
RL: BIOL (Biological study)
(**asparagine**-linked, of human IgD Fc region, structure and location of)

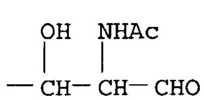
RN 84632-69-9 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

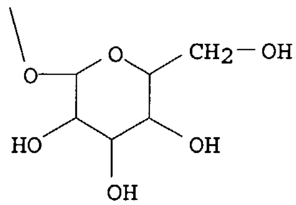
PAGE 1-A



PAGE 1-B

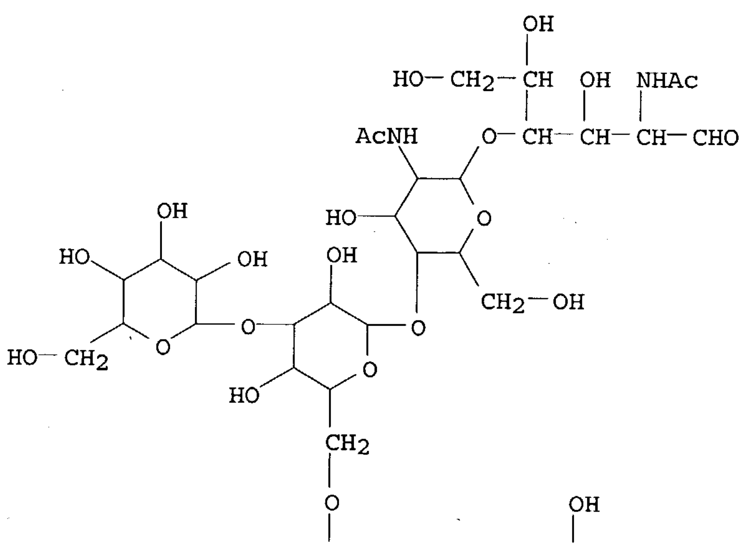


PAGE 2-A

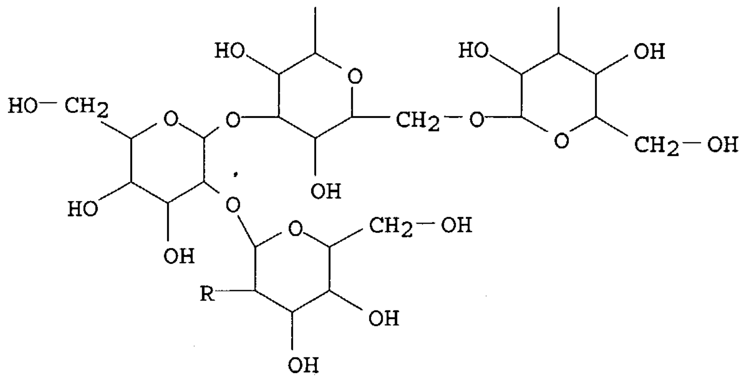


RN 84632-74-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

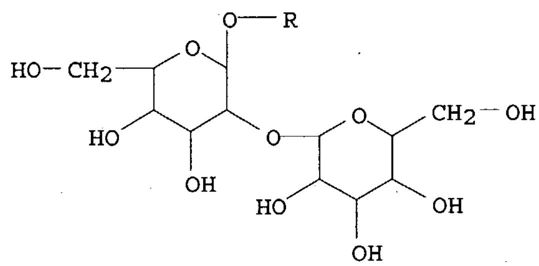
PAGE 1-A



PAGE 2-A

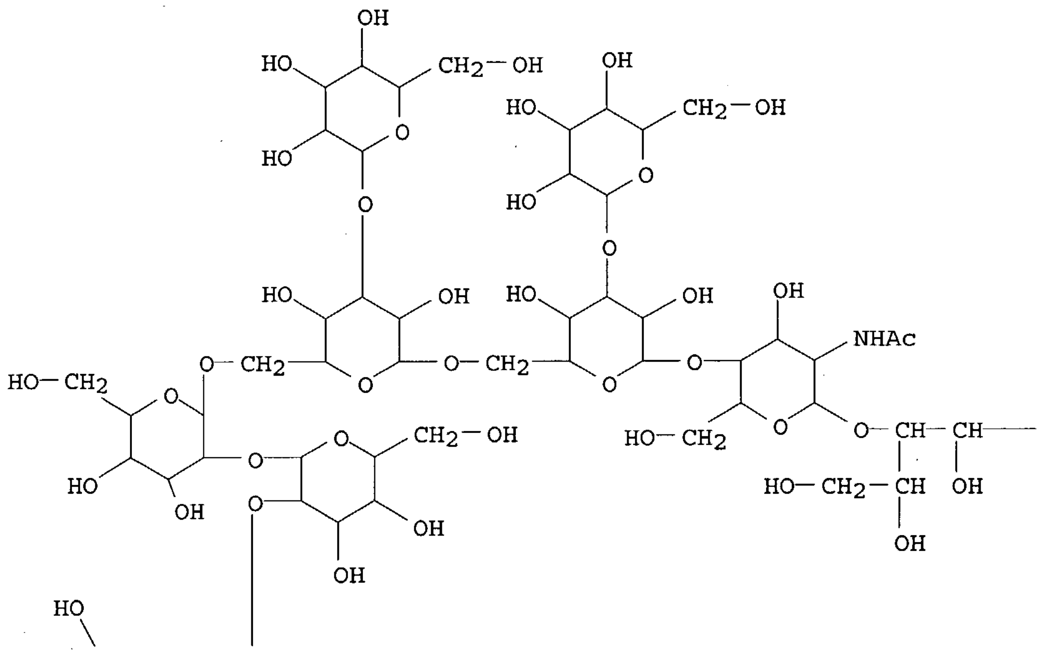


PAGE 3-A

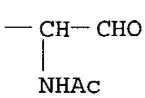


RN 84643-40-3 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

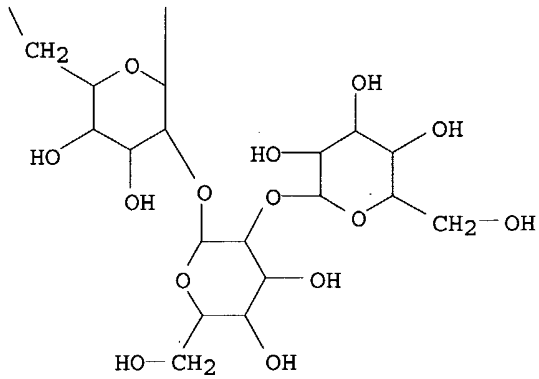
PAGE 1-A



PAGE 1-B

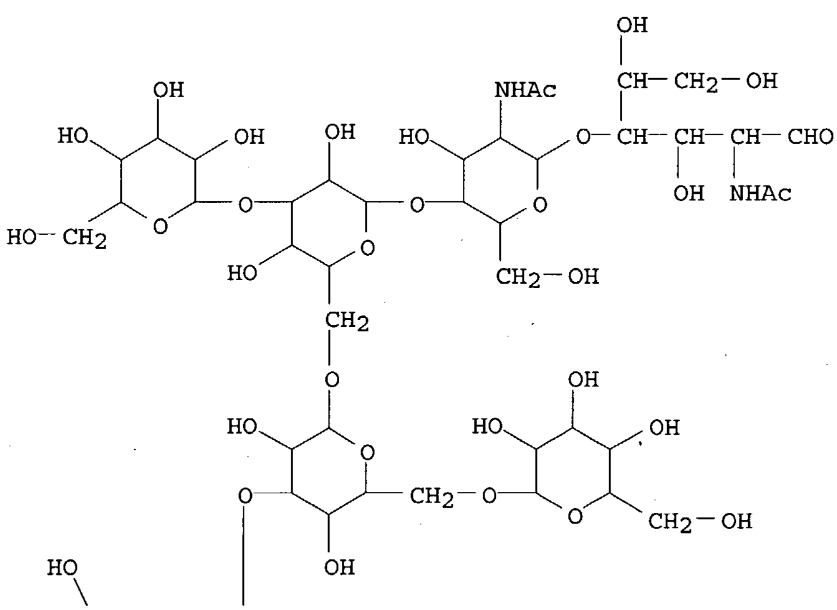


PAGE 2-A

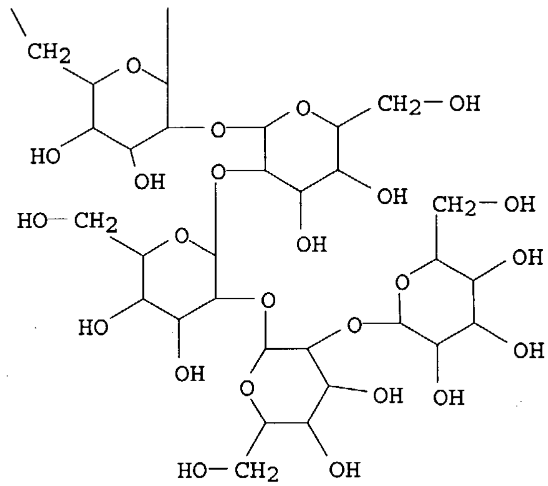


RN 84643-42-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

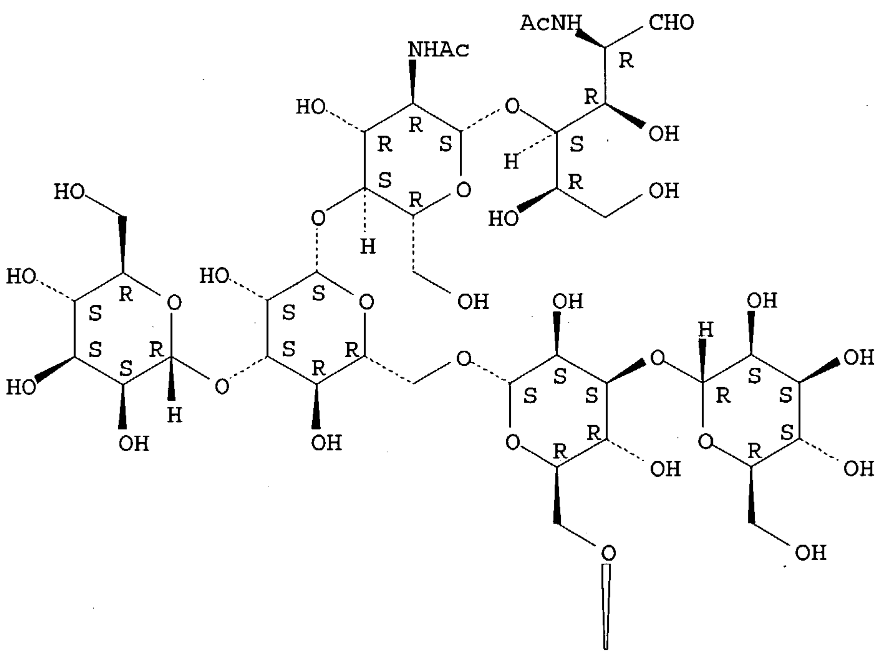


L91 ANSWER 44 OF 46 HCAPLUS
AN 1981:456669 HCAPLUS
DN 95:56669
ED Entered STN: 12 May 1984
TI Carbohydrate structures of HVJ (Sendai virus) glycoproteins
AU Yoshima, Hideo; Nakanishi, Mahito; Okada, Yoshio; Kobata, Akira
CS Sch. Med., Kobe Univ., Kobe, Japan
SO Journal of Biological Chemistry (**1981**), 256(11), 5355-61
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The carbohydrate structures of 2 membrane glycoproteins (HANA protein and F protein) of HVJ were determined on materials purified from virions grown in the allantoic sac of embryonated chicken eggs. Both glycoproteins contain fucose, mannose, galactose, and glucosamine but not galactosamine, indicating that their sugar chains are exclusively of the **asparagine**-linked type. The radioactive oligosaccharide fractions obtained from the 2 glycoproteins by hydrazinolysis followed by NaB[3H]4 reduction gave quite distinct fractionation patterns after paper electrophoresis. More than 75% of the oligosaccharides from F protein were acidic and separated into ≥4 components by paper electrophoresis. Only 18% of the oligosaccharide from HANA protein was an acidic single component. These acidic oligosaccharides could not be converted to neutral oligosaccharide by sialidase digestion. Structural studies of the neutral oligosaccharide fractions from HANA and F proteins revealed that both of them are mixts. of a series of **high mannose** type oligosaccharides and of complex type oligosaccharides with Galβ1→4(Fucα1→3)GlcNAc group in their outer chain moieties.
ST glycoprotein carbohydrate structure HVJ virus
IT Carbohydrates, biological studies
RL: BIOL (Biological study)
(of glycoproteins, of HVJ virus)
IT Oligosaccharides
RL: BIOL (Biological study)
(of glycoproteins, of HVJ virus, structure of)
IT Glycoproteins
RL: BIOL (Biological study)
(F, of HVJ virus, oligosaccharide structures of)
IT Glycoproteins

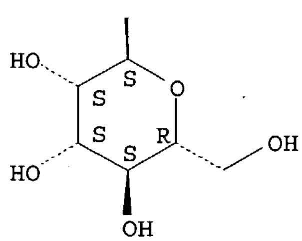
RL: BIOL (Biological study)
(HANA, of HVJ virus, oligosaccharide structures of)
IT Virus, animal
(sendai, glycoproteins of, oligosaccharide structures of)
IT **66091-47-2** 71496-53-2 78334-42-6 78334-43-7 78334-44-8 78334-45-9 78334-46-0 78334-47-1 78350-88-6 78350-89-7 **78392-29-7** **78392-30-0** **78392-31-1** 78392-81-1
RL: BIOL (Biological study)
(of glycoproteins, of HVJ virus)
IT **66091-47-2** **78392-29-7** **78392-30-0** **78392-31-1**
RL: BIOL (Biological study)
(of glycoproteins, of HVJ virus)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



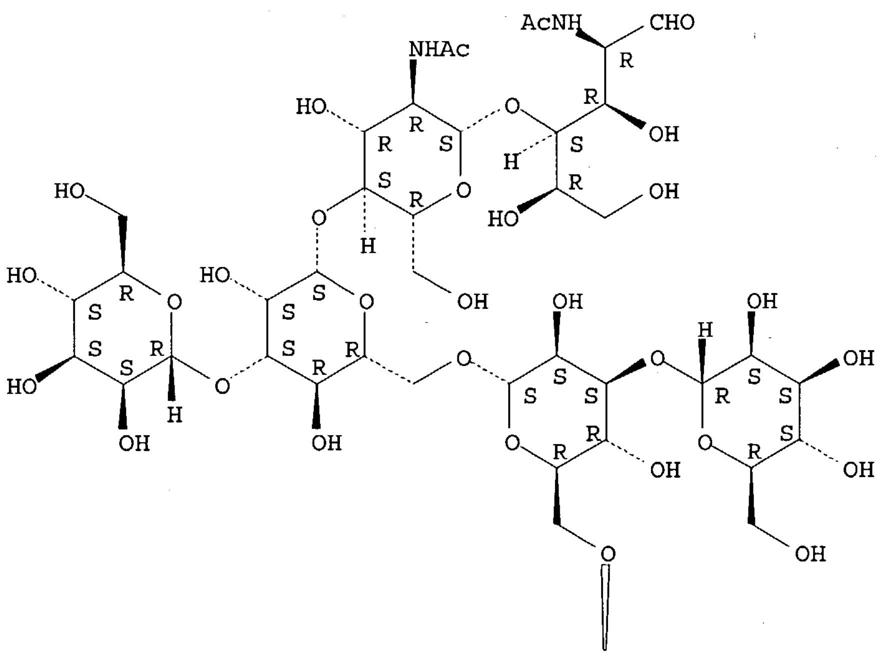
RN 78392-29-7 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, mono-α-D-mannopyranoside (9CI) (CA INDEX NAME)

CM 1

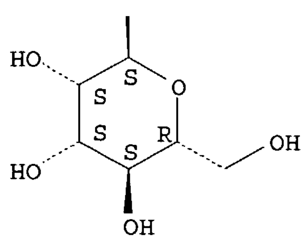
CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



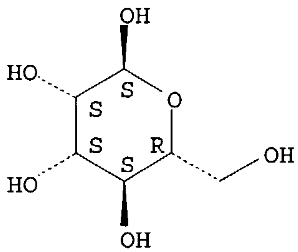
PAGE 2-A



CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



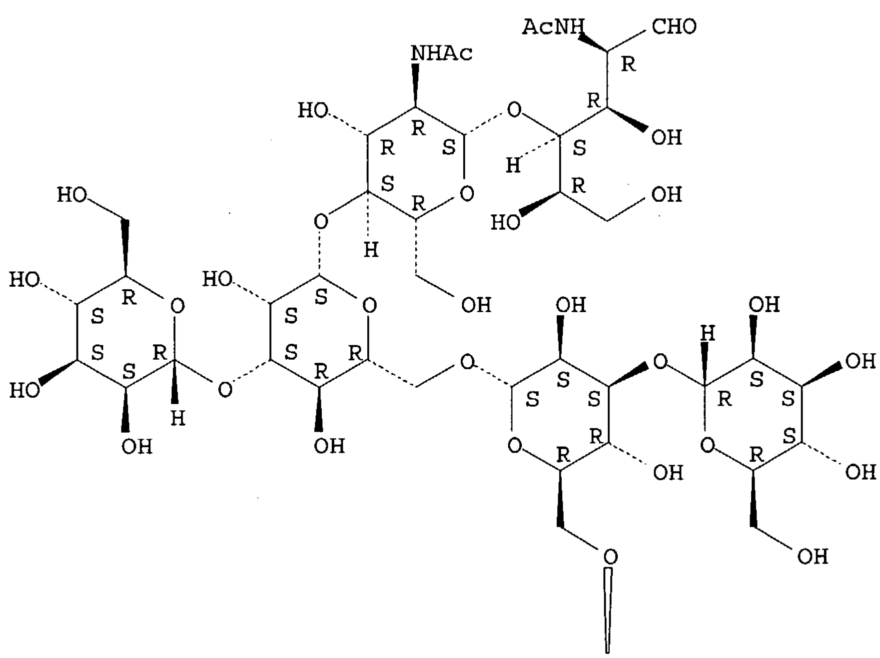
RN 78392-30-0 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, di-α-D-mannopyranoside (9CI) (CA INDEX NAME)

CM 1

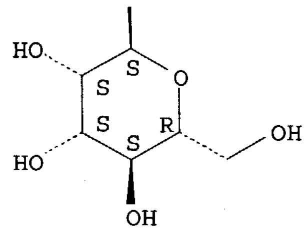
CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



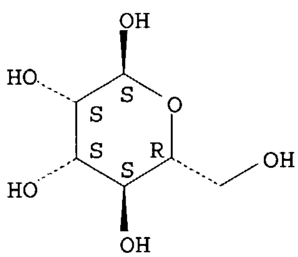
PAGE 2-A



CM 2

CRN 7296-15-3
CMF C6 H12 O6

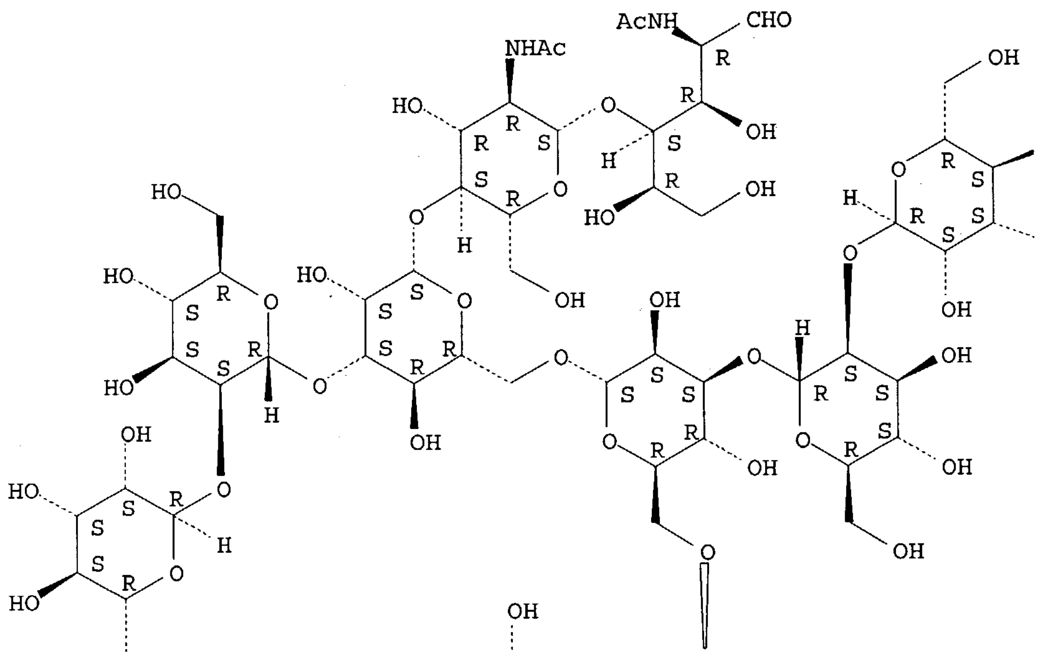
Absolute stereochemistry.



RN 78392-31-1 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

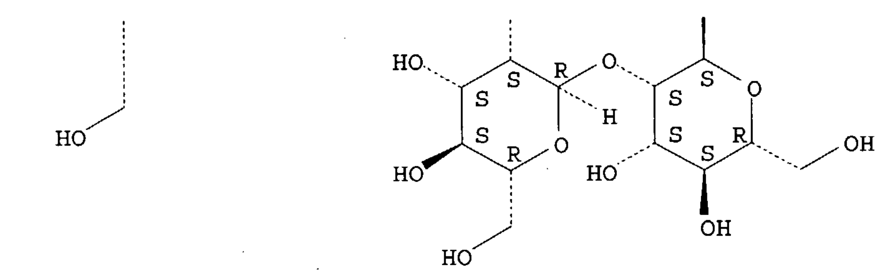
Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

PAGE 2-A

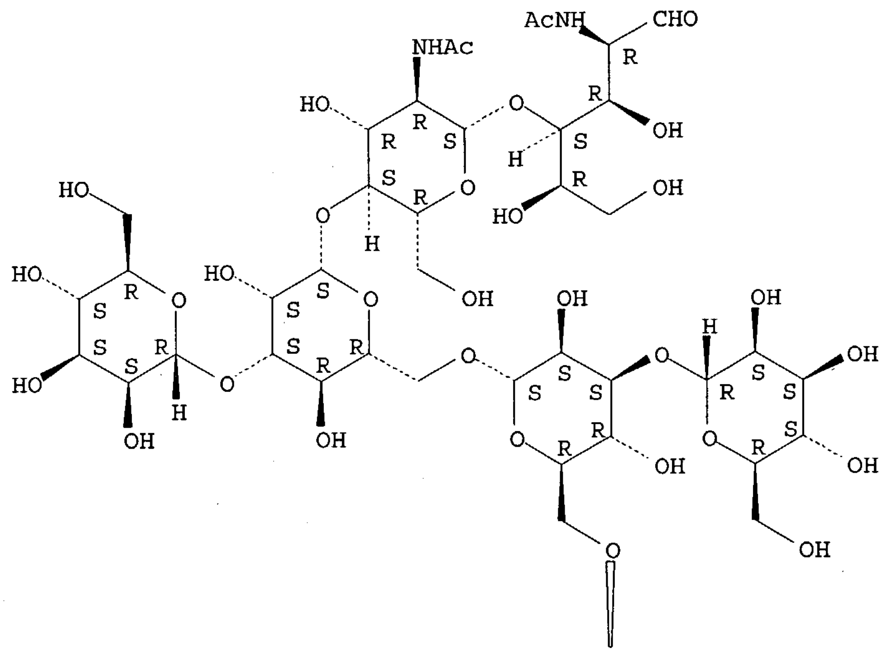


L91 ANSWER 45 OF 46 HCAPLUS
AN 1981:438086 HCAPLUS
DN 95:38086
ED Entered STN: 12 May 1984
TI Comparative studies of **asparagine**-linked oligosaccharide

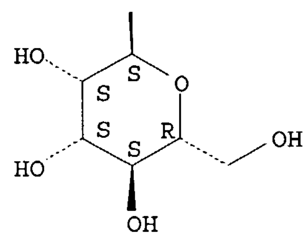
structures of rat liver microsomal and lysosomal β-glucuronidases
AU Mizuochi, Tsuguo; Nishimura, Yukio; Kato, Keitaro; Kobata, Akira
CS Sch. Med., Kobe Univ., Kobe, Japan
SO Archives of Biochemistry and Biophysics (**1981**), 209(1), 298-303
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
CC 7-5 (Enzymes)
AB The sugar chains of microsomal and lysosomal β-glucuronidases of rat liver were studied by endo-β-N-acetylglucosaminidase H digestion and by hydrazinolysis. Only a part of the oligosaccharides released from microsomal β-glucuronidase was an acidic component. The acidic component was not hydrolyzed by sialidase and by calf intestinal and Escherichia coli alkaline phosphatases, but was converted to a neutral component by phosphatase digestion after mild acid treatment, indicating the presence of a phosphodiester group. The neutral oligosaccharide portion of microsomal enzyme was a mixture of 5 **high mannose**-type sugar chains: (Manα1 → 2)6-4 [Manα1 → 6(Manα1 → 3)Manα1 → 6(Manα1 → 3)Manβ1 → 4GlcNAcβ1 → 4GlcNAc]. In contrast, lysosomal enzyme contains only Manα1 → 6(Manα1 → 3)Manα1 → 6(Manα1 → 3)Manβ1 → 4GlcNAcβ1 → 4GlcNAc. Apparently, removal of α1 → 2-linked mannosyl residues from (Manα1 → 2)4[Manα1 → 6(Manα1 → 3)Manα1 → 6(Manα1 → 3)Manβ1 → 4GlcNAcβ1 → 4GlcNAc → **Asn**] is already started in the endoplasmic reticulum of rat liver.
ST glucuronidase microsome lysosome oligosaccharide structure; liver glucuronidase oligosaccharide microsome lysosome
IT Oligosaccharides
RL: BIOL (Biological study)
(of β-glucuronidase, of liver lysosomes and microsomes, structure of)
IT Liver, composition
(β-glucuronidase of lysosomes and microsomes of, oligosaccharide structures of)
IT Lysosome
Microsome
(β-glucuronidase of, of liver, oligosaccharide structure of)
IT 9001-45-0
RL: BIOL (Biological study)
(of liver lysosomes and microsomes, **asparagine**-linked oligosaccharide structures of)
IT **66091-47-2**
RL: BIOL (Biological study)
(of β-glucuronidase, of liver lysosomes and microsomes)
IT **71246-55-4 77036-51-2 77355-54-5**
77449-92-4
RL: BIOL (Biological study)
(of β-glucuronidase, of liver microsomes)
IT **66091-47-2**
RL: BIOL (Biological study)
(of β-glucuronidase, of liver lysosomes and microsomes)
RN 66091-47-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



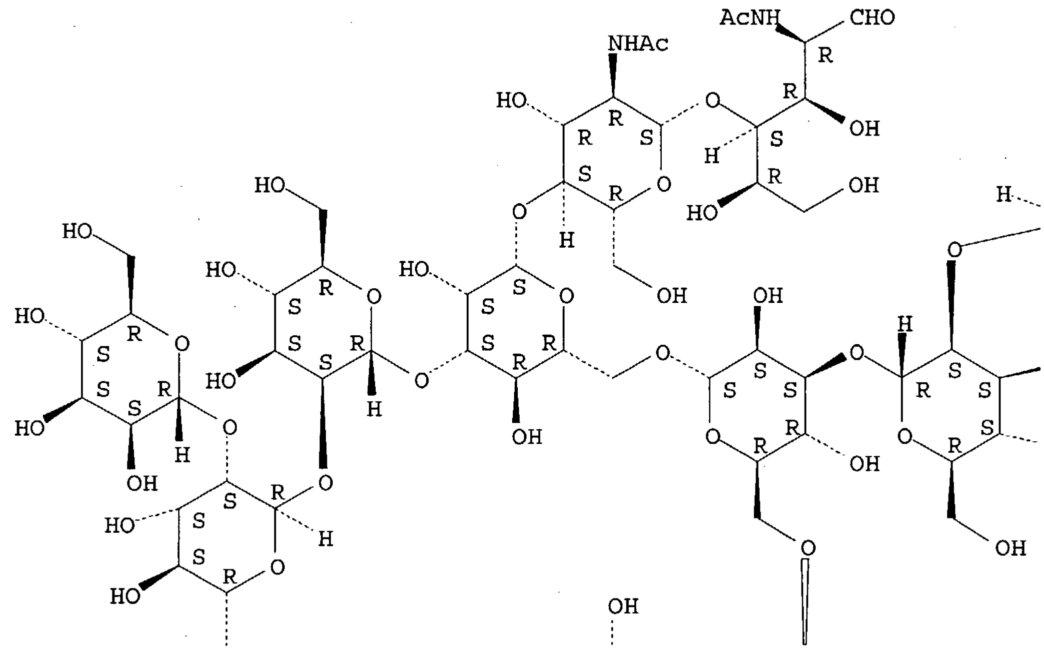
IT 71246-55-4 77036-51-2 77355-54-5
77449-92-4
RL: BIOL (Biological study)
(of β-glucuronidase, of liver microsomes)

RN 71246-55-4 HCAPLUS

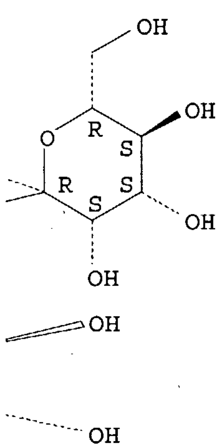
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

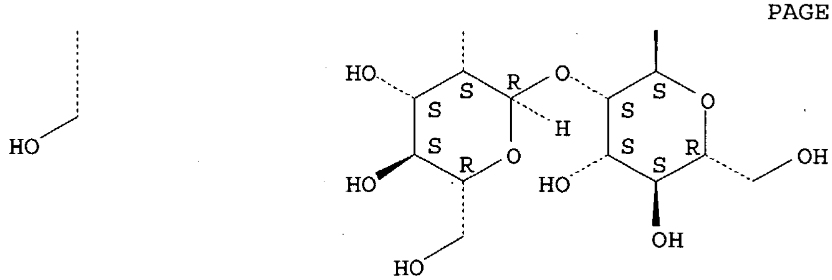
PAGE 1-A



PAGE 1-B



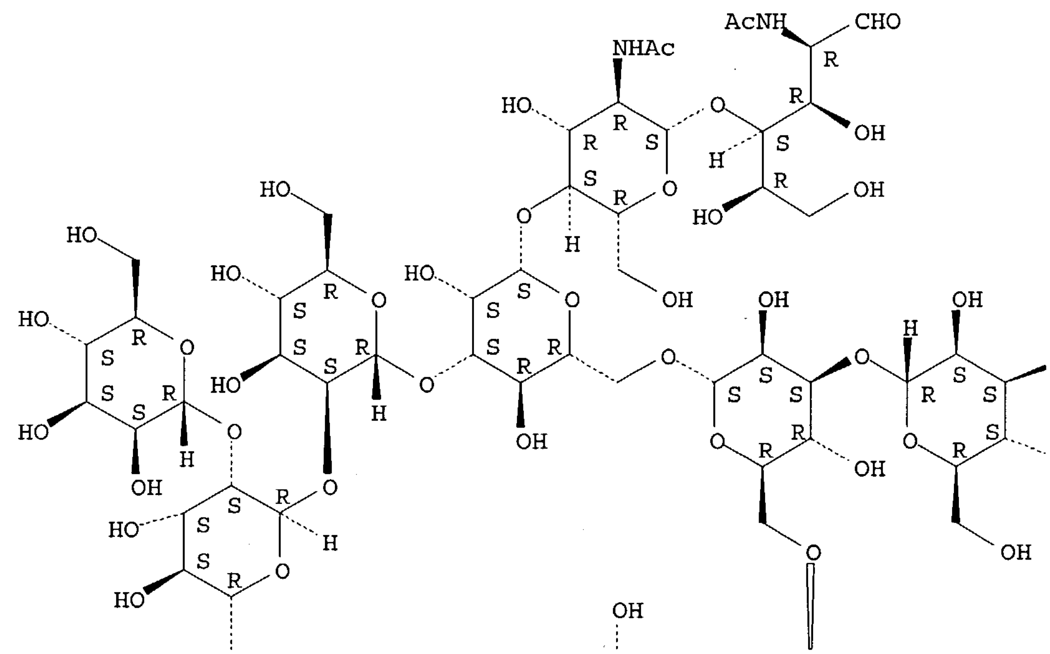
PAGE 2-A



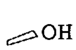
RN 77036-51-2 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

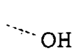
Absolute stereochemistry.

PAGE 1-A

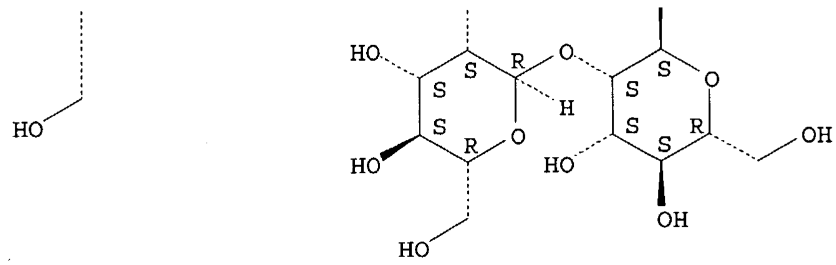


PAGE 1-B





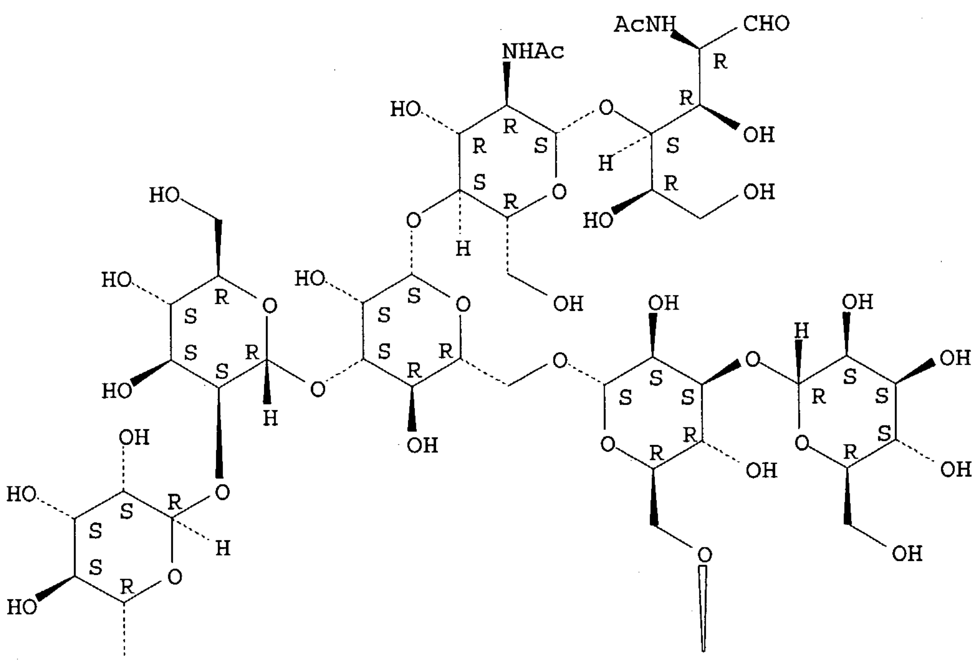
PAGE 2-A



RN 77355-54-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

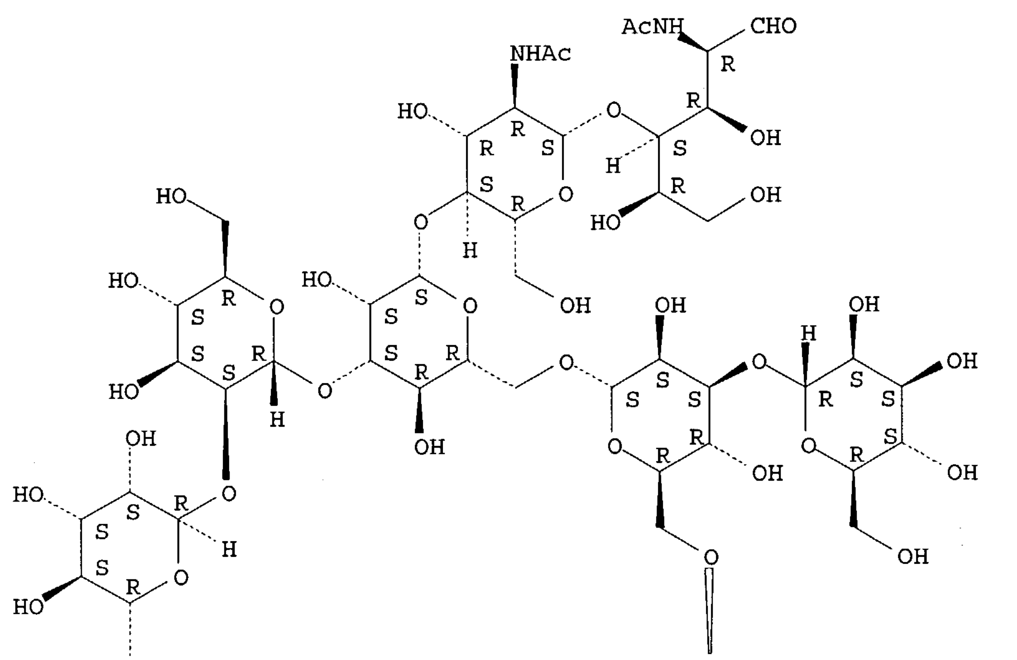
RN 77449-92-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, mono-α-D-mannopyranoside (9CI) (CA INDEX NAME)

CM 1

CRN 77355-54-5
CMF C52 H88 N2 O41

Absolute stereochemistry.

PAGE 1-A

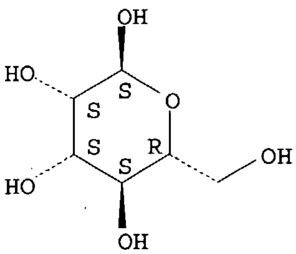


PAGE 2-A

CM 2

CRN 7296-15-3
CMF C6 H12 O6

Absolute stereochemistry.



L91 ANSWER 46 OF 46 HCAPLUS
AN 1979:590024 HCAPLUS
DN 91:190024
ED Entered STN: 12 May 1984
TI Synthesis and processing of protein-linked oligosaccharides in vivo
AU Hubbard, S. Catherine; Robbins, Phillips W.
CS Cent. Cancer Res., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO Journal of Biological Chemistry (**1979**), 254(11), 4568-76
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 12-2 (Nonmammalian Biochemistry)
AB The **high-mannose** (Man) and complex **asparagine** -linked oligosaccharides of glycoproteins are believed to derive from a common precursor, a lipid-linked oligosaccharide. Pulse and pulse-chase labeling techniques, together with high-resolution gel filtration chromatog. and digestion with glycosidases, were used to examine the structure of lipid-linked oligosaccharides and their fate after transfer to proteins in vivo. The major lipid-linked oligosaccharide synthesized in secondary chick embryo fibroblasts had the composition Glc3Man3GlcNAc2, with the glucose (Glc) residues exterior to the remainder of the mol. and the N-acetylglucosamine (GlcNAc) residues at the reducing terminus. This oligosaccharide appeared to be the major or exclusive species transferred to protein and, after transfer, it underwent a series of modifications. The 1st glucose residue was removed extremely rapidly (half-time for reaction, <2 min); the 2nd, more slowly (half-time, .apprx.5 min); and the last, most slowly. Subsequent hydrolysis of a variable number of mannose residues gave rise to a family of protein-linked **high-mannose** oligosaccharides ranging from Man9GlcNAc2 to Man5GlcNAc2. Complex protein-linked oligosaccharides were not detectable until after .apprx.10 min of incubation with mannose-3H. Although these results were obtained with uninfected cells, a similar situation appears to exist in vesicular stomatitis- or Sindbis virus-infected cells, in which only 1 or 2 proteins are glycosylated.
ST oligosaccharide metab fibroblast protein; glycoprotein formation fibroblast
IT Glycoproteins
RL: FORM (Formation, nonpreparative)
(formation of, by fibroblast, precursors in)
IT Fibroblast
(glycoprotein formation by, lipid- and protein-linked oligosaccharides in)
IT Oligosaccharides
RL: BIOL (Biological study)
(lipid and protein derivs., of fibroblast, glycoprotein formation in relation to)
IT Lipids
RL: BIOL (Biological study)
(oligosaccharide derivs., of fibroblast, glycoprotein formation in relation to)

IT 66091-47-2D, protein derivs. 71066-12-1D, lipid and protein derivs. 71085-68-2D, protein derivs. 71116-95-5D, protein derivs. 71246-55-4D, protein derivs. 71267-41-9D, protein derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by fibroblast, glycoprotein formation in relation to)

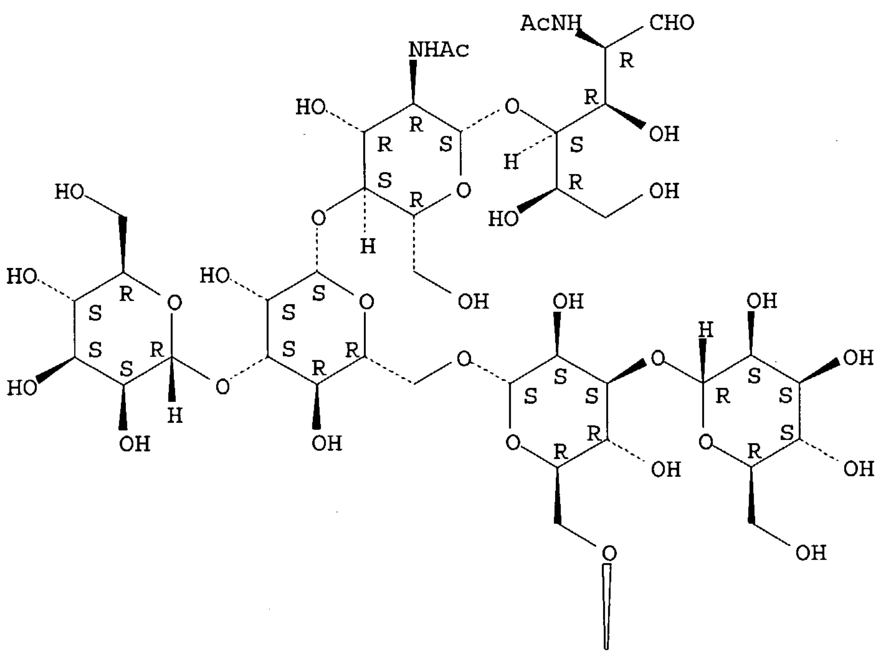
IT 66091-47-2D, protein derivs. 71066-12-1D, lipid and protein derivs. 71085-68-2D, protein derivs. 71116-95-5D, protein derivs. 71246-55-4D, protein derivs. 71267-41-9D, protein derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by fibroblast, glycoprotein formation in relation to)

RN 66091-47-2 HCAPLUS

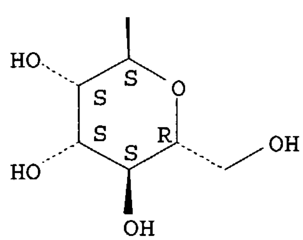
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



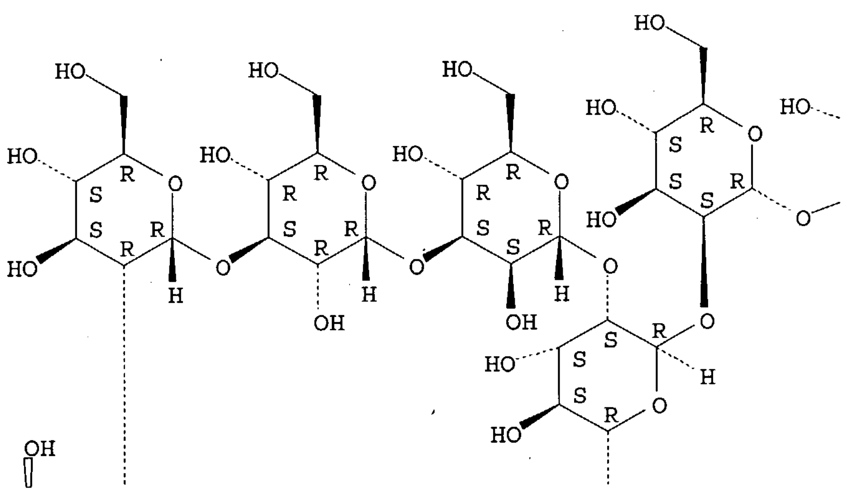
PAGE 2-A



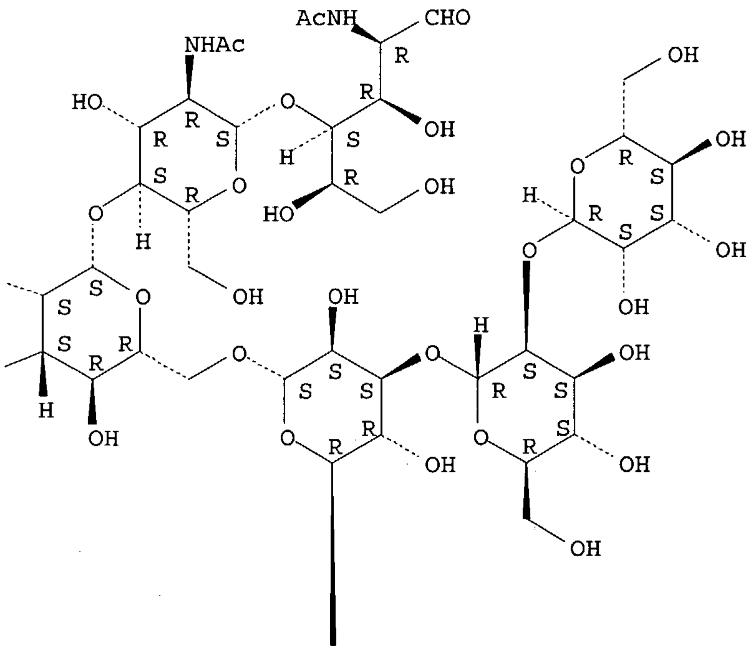
RN 71066-12-1 HCAPLUS
CN D-Glucose, O-α-D-glucopyranosyl-(1→2)-O-α-D-glucopyranosyl-(1→3)-O-α-D-glucopyranosyl-(1→3)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

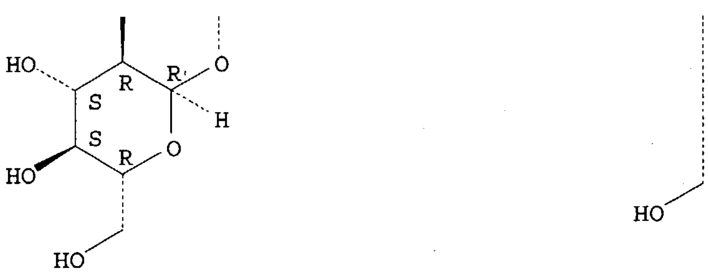
PAGE 1-A



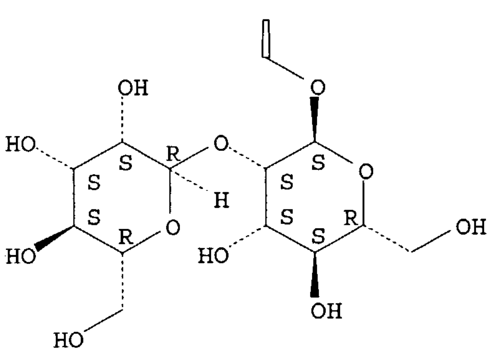
PAGE 1-B



PAGE 2-A



PAGE 2-B

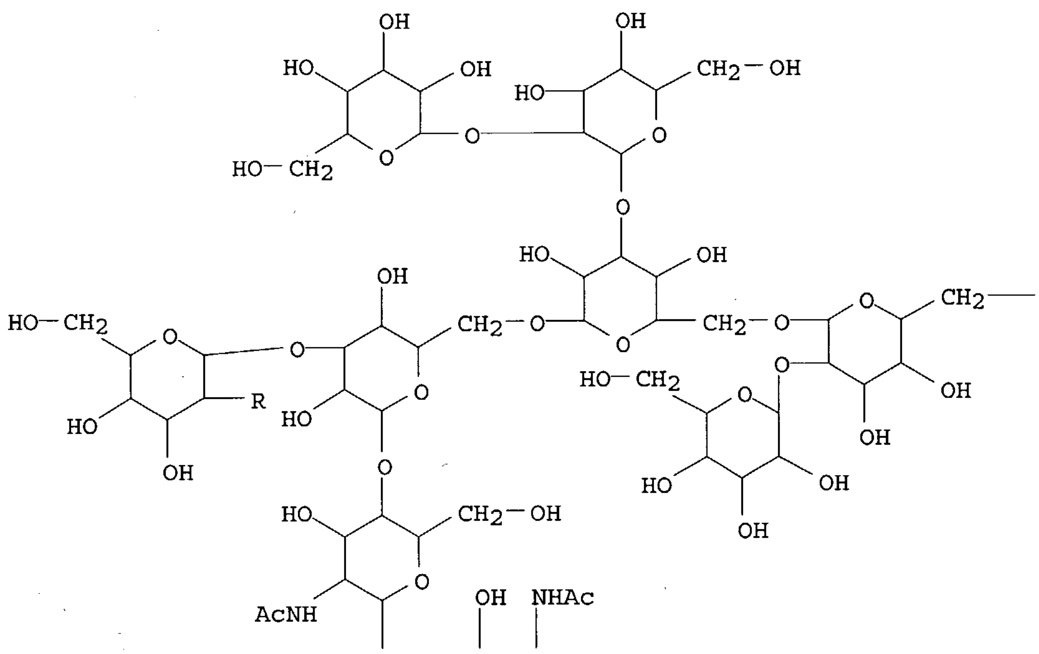


RN 71085-68-2 HCAPLUS

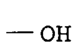
CN D-Glucose, O-D-glucopyranosyl-(1→3)-O-D-glucopyranosyl-(1→3)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-

mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

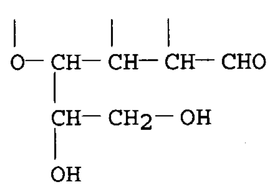
PAGE 1-A



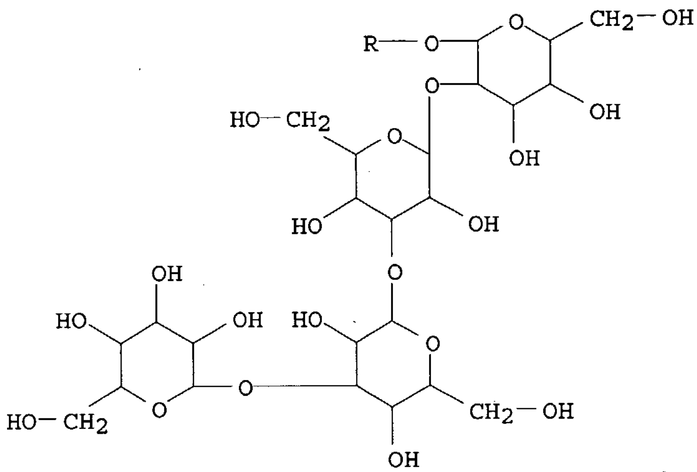
PAGE 1-B



PAGE 2-A



PAGE 3-A



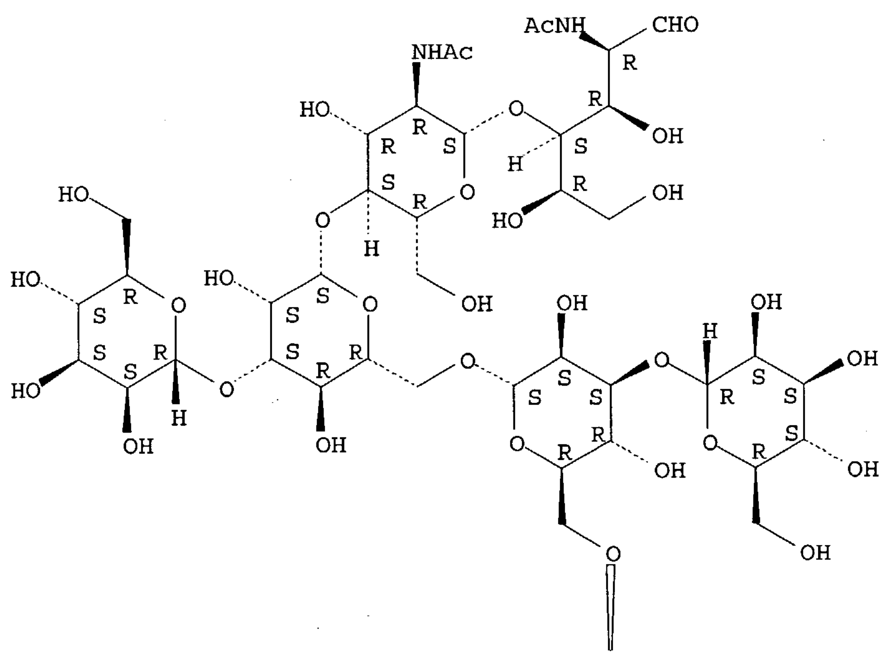
RN 71116-95-5 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-, O-α-D-mannopyranosyl deriv. (9CI) (CA INDEX NAME)

CM 1

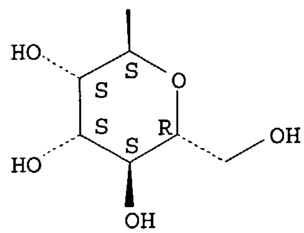
CRN 66091-47-2
CMF C46 H78 N2 O36

Absolute stereochemistry.

PAGE 1-A



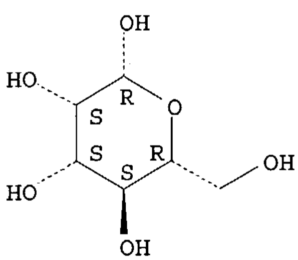
PAGE 2-A



CM 2

CRN 7322-31-8
CMF C6 H12 O6

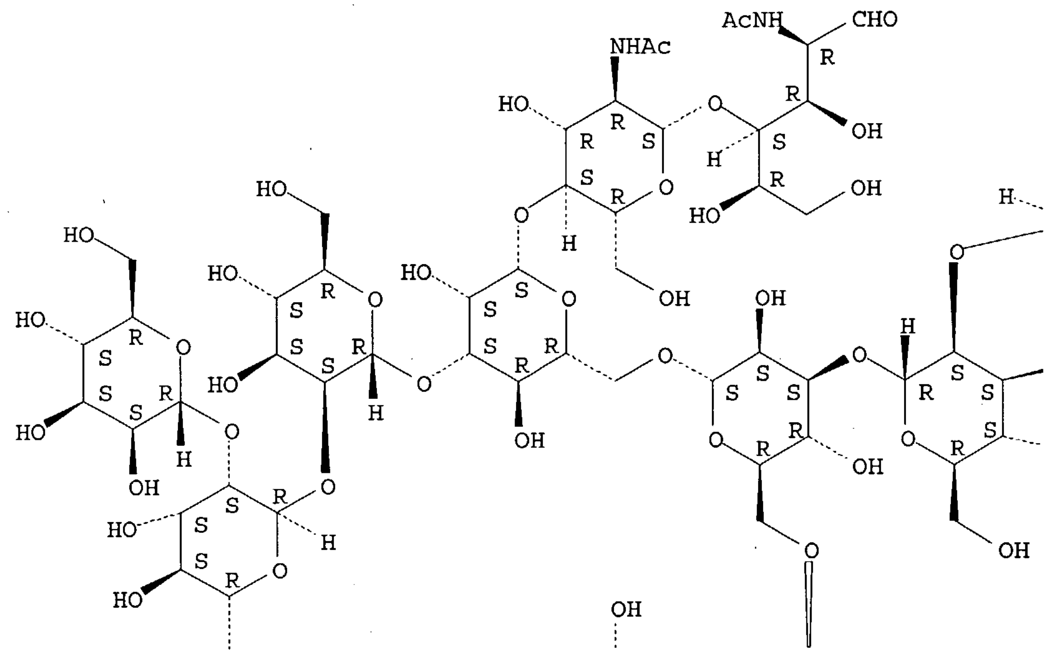
Absolute stereochemistry.



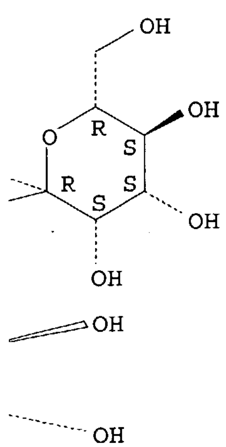
RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

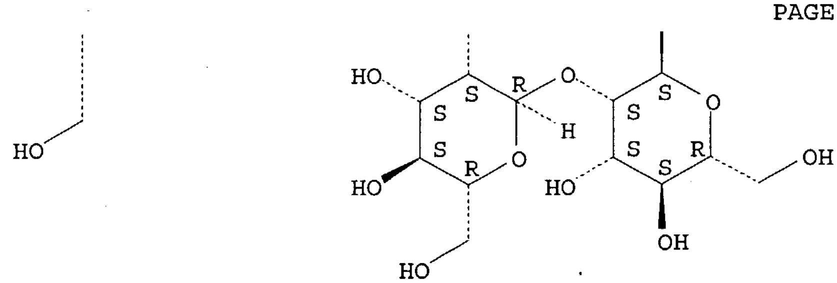
PAGE 1-A



PAGE 1-B



PAGE 2-A



RN 71267-41-9 HCAPLUS
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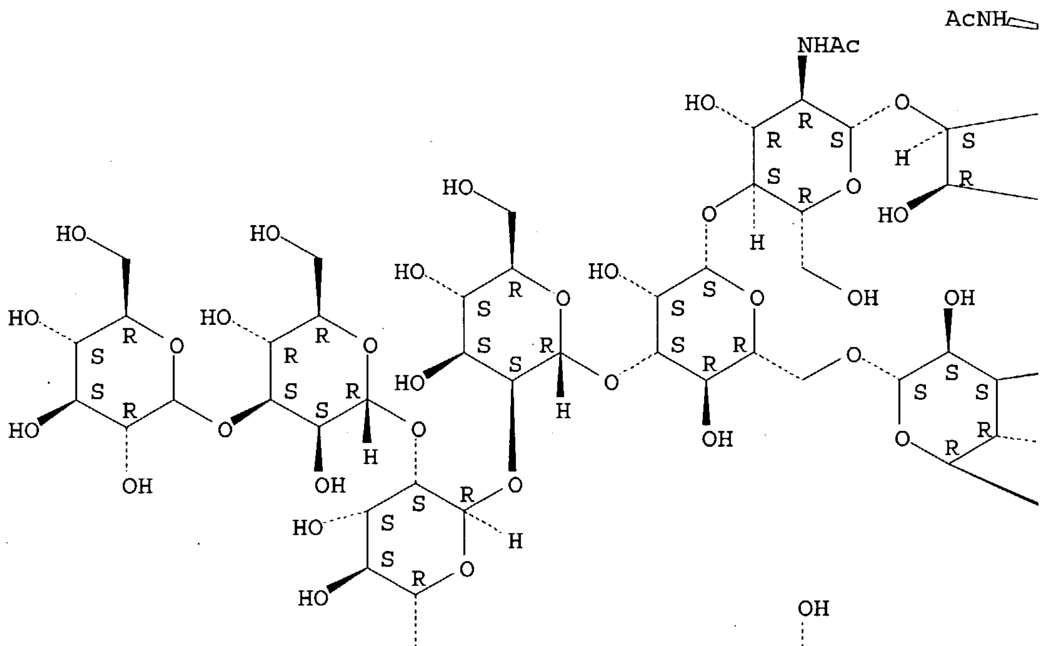
Absolute stereochemistry.

PAGE 1-A



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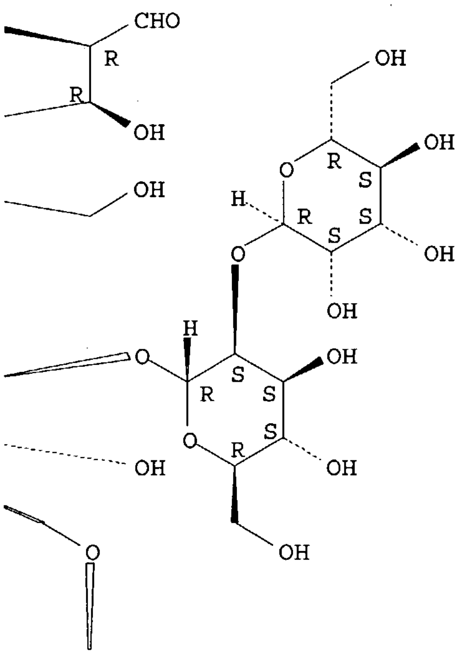

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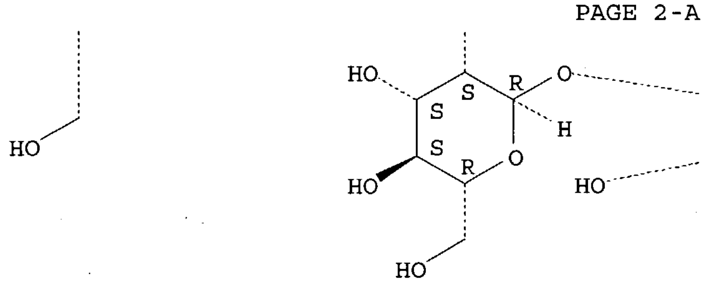

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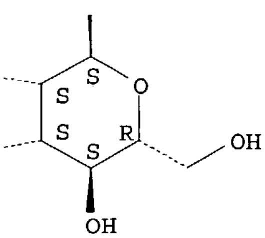

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L3              STR
L4   (     5778)SEA FILE=REGISTRY SSS FUL L3
L5              STR
L6         1776 SEA FILE=REGISTRY SUB=L4 SSS FUL L5
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                ACT MAIER714B/A
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L7              STR
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L9              STR
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L11             STR
L12         719 SEA FILE=REGISTRY SUB=L10 CSS FUL L11
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L14          19 S L6 (L)(THU OR PAC OR PKT OR DMA)/RL
L15          15 S L6 (L) BAC/RL
L16          36 S L6 (L) USES+NT/RL
L17          47 S L14-L16
L18          33 S L17 AND (PHARMACEUT? OR PHARMACOL? OR PATHOL? OR IMMUN?)/SC,S
L19          45 S L17 NOT CHLAMYD?
L20          31 S L18 AND L19
L21          45 S L17 NOT CHLAMYD?
L22          45 S L20,L21
L23         360 S L13 AND (PHARMACEUT? OR PHARMACOL? OR PATHOL? OR IMMUN?)/SC,S
L24         218 S L13 AND HIGH MANNOS?
L25         432 S L13 AND N LINK?

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L26           1 S CHITOBIOSE/CN
L27           2 S ASPARAGINE/CN

     FILE 'HCAPLUS' ENTERED AT 13:39:56 ON 07 OCT 2004
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L29         332 S L13 AND (L27 OR ASN OR ASPARAG?)
L30          81 S L24 AND L28,L29
L31          99 S L24 AND L25
L32           9 S L28 AND L29
L33           5 S L32 AND L22-L25
L34           4 S L33 NOT CHLAMYD?
L35           4 S L32 NOT L33
L36          38 S L22 AND L23-L25
L37           3 S L22 AND L28-L31
L38          39 S L36,L37 NOT CHLAMYD?
L39         769 S L13 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)
L40           0 S L30 AND L22
L41          31 S L30 AND L23
L42         349 S L24,L25,L28,L28 AND L39
L43          23 S L41 AND L42
L44          29 S L41,L43 NOT CHLAMYD?
L45         228 S L23 AND L39
L46         225 S L45 NOT CHLAMYD?
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L47            16 S L45 AND ?INFECT?
                  E INFECTION/CT
L48            16 S E3+OLD,NT,PFT,RT AND L39
L49            13 S L48 NOT CHLAMYD?
L50            16 S L39 AND L47
L51            13 S L50 NOT CHLAMYD?
L52            21 S L49,L51 AND L13-L25,L28-L51
                  SEL HIT RN

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L53            79 S E1-E79
L54            45 S L53 AND L12
L55            34 S L53 NOT L54

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L59            14 S L54 (L) (THU OR BAC OR PKT OR PAC OR DMA)/RL
L60            84 S L54 AND USES+NT/RL
L61           145 S L54 AND (PHARMACOL? OR PHARMACEUT? OR PATHOL? OR IMMUN?)/SX,S
L62            34 S L54 AND ?INFECT?
L63            22 S L54 AND INFECTION+OLD,NT,PFT,RT/CT
L64           102 S L57 AND L59,L50,L61,L62,L63
L65            99 S L64 NOT CHLAMYD?
L66             6 S L59 AND L65
L67            11 S L59 AND L60
L68             5 S L59 AND L62
L69             8 S L59 AND L63
L70            11 S L66-L69 NOT CHLAMYD?
L71             0 S L54 (L) COS/RL
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L73             1 S L72 AND L57
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FILE COVERS 1907 - 7 Oct 2004  VOL 141 ISS 15
FILE LAST UPDATED: 6 Oct 2004  (20041006/ED)
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This file contains CAS Registry Numbers for easy and accurate substance identification.

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AN   2003:791637  HCAPLUS
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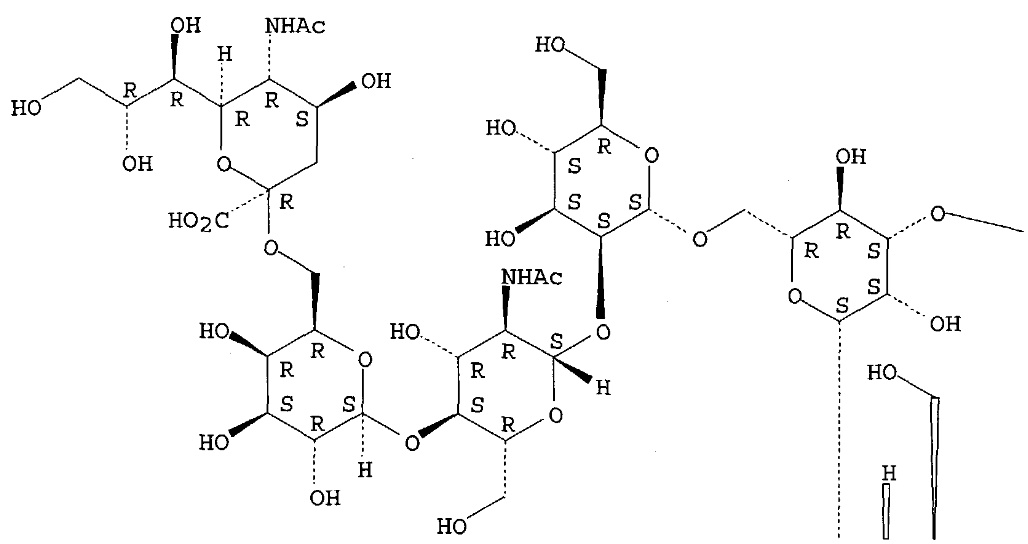
DN 139:307071
ED Entered STN: 10 Oct 2003
TI Carbohydrates as nutraceuticals and their applications
AU Juneja, Lekh Raj; Sasaki, Ken
CS R & D Lab., Taiyo Kagaku Co., Ltd., Japan
SO Nippon Nogei Kagaku Kaishi (2003), 77(10), 991-993
CODEN: NNKKAA; ISSN: 0002-1407
PB Nippon Nogei Kagakkai
DT Journal; General Review
LA Japanese
CC 18-0 (Animal Nutrition)
Section cross-reference(s): 1, 33
AB A review on the preparation and structure of sialylglycopeptide (SGP) and free sialyloligosaccharide (YDS) of hen's egg yolk, preparation of tris-bipyridine ruthenium-complexes carrying YDS and its high-affinity to type A influenza virus, anti-influenza virus activity of polyacrylic type conjugates of YDS, synthesis of oligosaccharide derivs. from YDS or SGP, characteristics of partially hydrolyzed guar gum (PHGG), effects of PHGG on short-chain fatty acid production by human fecal microflora, and physiol. functions of PHGG as a dietary fiber.
ST review sialooligosaccharide egg yolk antivirus; guar gum dietary fiber review
IT Antiviral agents
Dietary fiber
Human
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
IT Carbohydrates, biological studies
RL: BSU (Biological study, unclassified); **FFD (Food or feed use)** ; PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); **USES (Uses)**
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
IT **71496-55-4**
RL: BSU (Biological study, unclassified); **PAC (Pharmacological activity)**; PRP (Properties); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
IT **71496-55-4DP**, conjugates
RL: BSU (Biological study, unclassified); **PAC (Pharmacological activity)**; SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
IT 9000-30-0, Guar gum
RL: BSU (Biological study, unclassified); **FFD (Food or feed use)** ; PRP (Properties); BIOL (Biological study); **USES (Uses)**
(partially hydrolyzed; antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
IT **71496-55-4**
RL: BSU (Biological study, unclassified); **PAC (Pharmacological activity)**; PRP (Properties); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)
RN 71496-55-4 HCAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-

(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-
mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-
glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX
NAME)

Absolute stereochemistry.

PAGE 1-A



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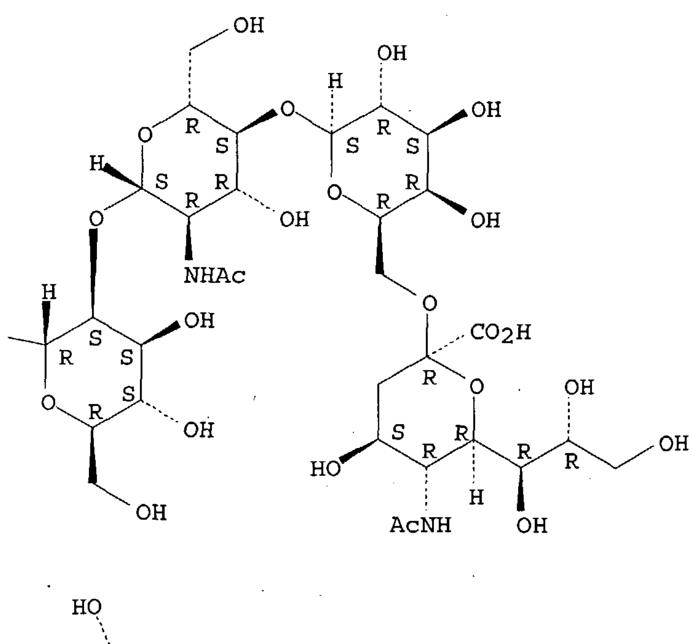

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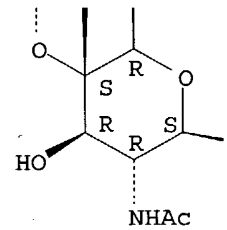

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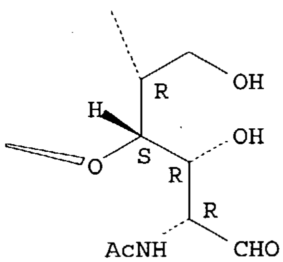


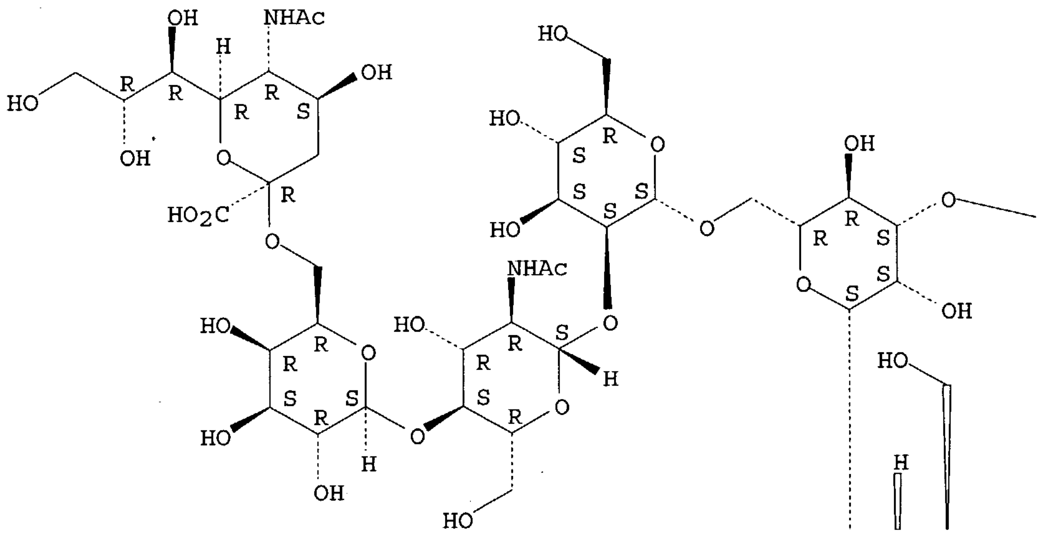
IT **71496-55-4DP**, conjugates
RL: BSU (Biological study, unclassified); **PAC (Pharmacological activity)**; SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(antiviral activity of sialyloligosaccharide derivs. and physiol. functions of partially hydrolyzed guar gum)

RN 71496-55-4 HCAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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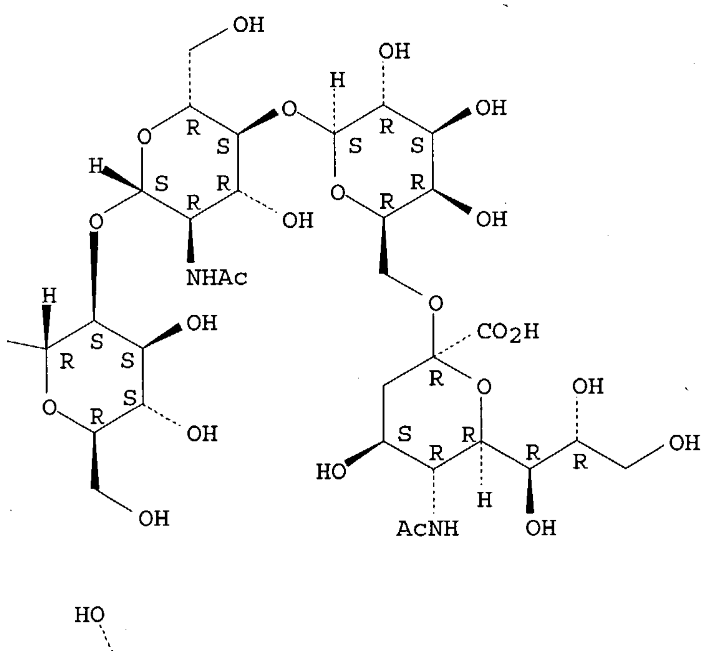

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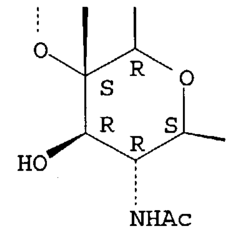

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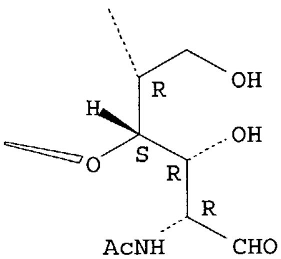

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AN   2003:520285  HCAPLUS
DN   139:96335
ED   Entered STN:  09 Jul 2003
TI   Galectin-9 carbohydrate recognition domain functional analysis for
     eosinophil chemoattractant activity
IN   Kasai, Kenichi; Hirabayashi, Atsushi; Nakamura, Takanori; Nishi, Nozomu;
     Hirashima, Mitsuomi
PA   Gal Pharma Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 44 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  C12N015-09
     ICS  A61K031-715; A61K039-395; A61K045-00; A61P037-02; A61P037-04;
          A61P037-06; A61P043-00; C07K014-47; C07K016-18; C07K017-10;
          C12N001-15; C12N001-19; C12N001-21; C12N005-10; C12P021-02;
          G01N033-15; G01N033-50
CC   3-2 (Biochemical Genetics)
     Section cross-reference(s): 1, 6, 9
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
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PI   JP 2003189874        A2    20030708    JP 2001-398780         20011228
PRAI JP 2001-398780             20011228
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 JP 2003189874   ICM    C12N015-09
                 ICS    A61K031-715; A61K039-395; A61K045-00; A61P037-02;
                        A61P037-04; A61P037-06; A61P043-00; C07K014-47;
                        C07K016-18; C07K017-10; C12N001-15; C12N001-19;
                        C12N001-21; C12N005-10; C12P021-02; G01N033-15;
                        G01N033-50
AB   A solid support having N- or C-terminal carbohydrate recognition domains
     (CRDs) of galectin-9 immobilized on, and its use in screening of sugar
```

chains recognized by galectin-9 as modulator of galectin-9 activity, are disclosed. Recombinant galectin-9 having N-terminal CRD and lacking C-terminal CRD or vice versa, encoding nucleic acid, and recombinant expression, are claimed. Antibodies against the sugar chains recognized by galectin-9 are also claimed. Human galectin-9 is a β-galactoside-binding protein consisting of two carbohydrate recognition domains (CRDs) and a linker peptide. The authors have shown that galectin-9 represents a novel class of eosinophil chemoattractants (ECAs) produced by activated T cells. A previous study demonstrated that the carbohydrate binding activity of galectin-9 is indispensable for eosinophil chemoattraction and that the N- and C-terminal CRDs exhibit comparable ECA activity, which is substantially lower than that of full-length galectin-9. In this study, the authors investigated the roles of the two CRDs in ECA activity in conjunction with the sugar-binding properties of the CRDs. In addition, to address the significance of the linker peptide structure, the authors compare the three isoforms of galectin-9, which only differ in the linker peptide region, in terms of ECA activity. Recombinant proteins consisting of two N-terminal CRDs (galectin-9NN), two C-terminal CRDs (galectin-9CC), and three isoforms of galectin-9 (galectin-9S, -9M, and -9L) were generated. All the recombinant proteins had hemagglutination activity comparable to that of the predominant wild-type galectin-9 (galectin-9M). Galectin-9NN and galectin-9CC induced eosinophil chemotaxis in a manner indistinguishable from the case of galectin-9M. Although the isoform of galectin-9 with the longest linker peptide, galectin-9L, exhibited limited solubility, the three isoforms showed comparable ECA activity over the concentration range tested.

The

interactions between N- and C-terminal CRDs and glycoprotein glycans and glycolipid glycans were examined using frontal affinity chromatog. Both CRDs exhibited high affinity for branched complex type sugar chain, especially for tri- and tetraantennary N-linked glycans with N-acetyllactosamine units, and the oligosaccharides inhibited the ECA activity at low concns. These results suggest that the N- and C-terminal CRDs of galectin-9 interact with the same or a closely related ligand on the eosinophil membrane when acting as an ECA and that ECA activity does not depend on a specific structure of the linker peptide.

ST eosinophil chemotaxis galectin 9 carbohydrate recognition domain

IT Oligosaccharides, biological studies
RL: ANT (Analyte); BSU (Biological study, unclassified); **THU (Therapeutic use)**; ANST (Analytical study); BIOL (Biological study); **USES (Uses)**
(N-linked, tri- and tetraantennary, binding to galectin-9; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)

IT Oligosaccharides, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(acetyllactosamine-containing, inhibition of galectin-9 ECA activity by; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)

IT Chemotaxis
Hemagglutination
(activity; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)

IT Protein motifs
(carbohydrate recognition; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)

IT Agglutinins and Lectins
RL: ARU (Analytical role, unclassified); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); **BUU (Biological use, unclassified)**; PRP (Properties); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(galactose-binding, galectin-9; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)

IT Drug screening
Eosinophil
Molecular cloning
(galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT Antibodies and Immunoglobulins
RL: **BUU (Biological use, unclassified)**; **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT Human
(galectin-9 from; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT Oligosaccharides, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibition of galectin-9 ECA activity by; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT Immobilization, molecular or cellular
(of galectin-9 carbohydrate recognition domain; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT Carbohydrates, biological studies
RL: ANT (Analyte); BSU (Biological study, unclassified); **THU (Therapeutic use)**; ANST (Analytical study); BIOL (Biological study); **USES (Uses)**
(recognized by galectin-9; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
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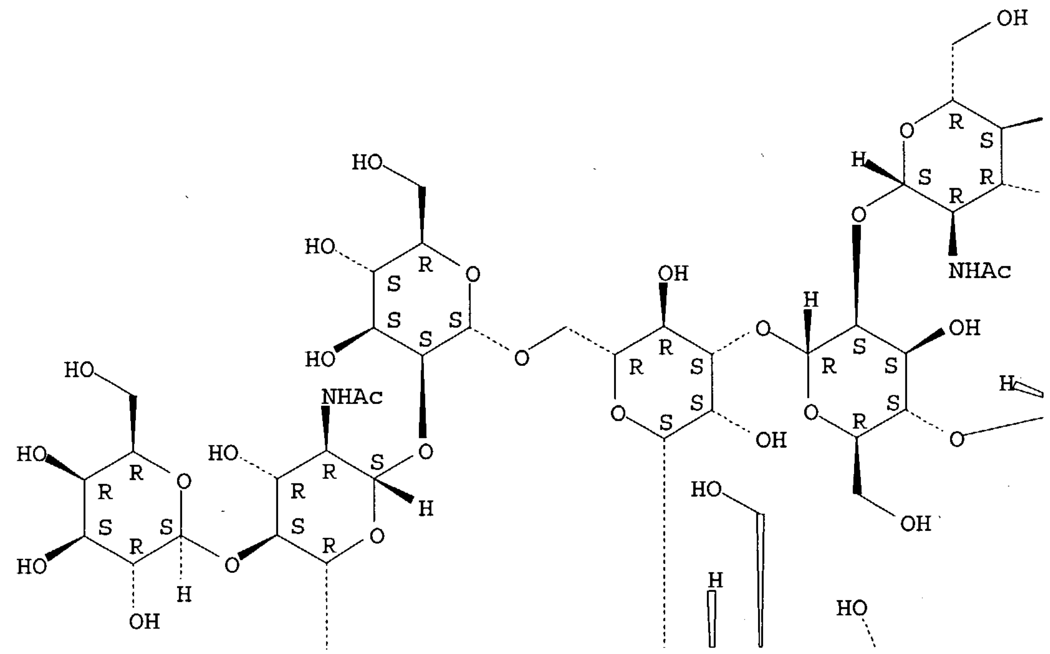
107688-07-3 107741-95-7
RL: ANT (Analyte); BSU (Biological study, unclassified); **THU (Therapeutic use)**; ANST (Analytical study); BIOL (Biological study); **USES (Uses)**
(binding to galectin-9; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT 556877-54-4 556877-55-5 556877-56-6 556877-57-7 556877-58-8
556877-59-9 556877-60-2 556877-61-3
RL: PRP (Properties)
(unclaimed nucleotide sequence; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
IT **82867-73-0 82867-74-1**
RL: ANT (Analyte); BSU (Biological study, unclassified); **THU (Therapeutic use)**; ANST (Analytical study); BIOL (Biological study); **USES (Uses)**
(binding to galectin-9; galectin-9 carbohydrate recognition domain functional anal. for eosinophil chemoattractant activity)
RN 82867-73-0 HCAPLUS
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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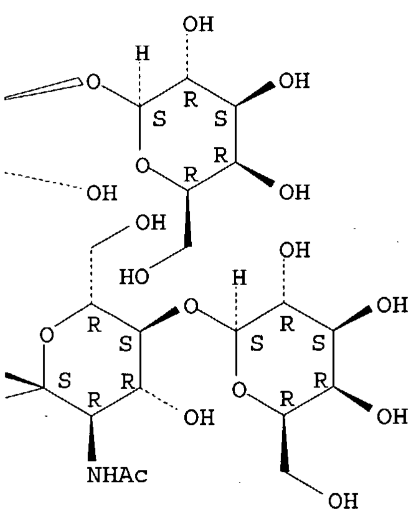

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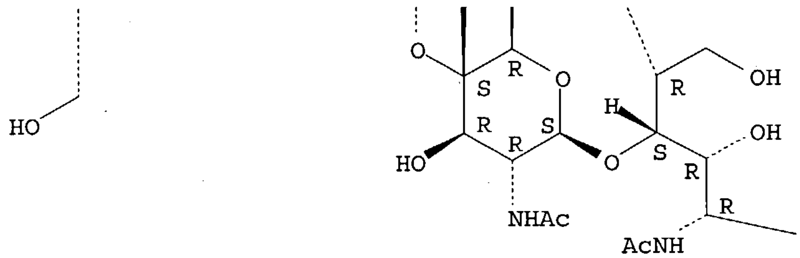

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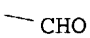

RN 82867-74-1 HCAPLUS
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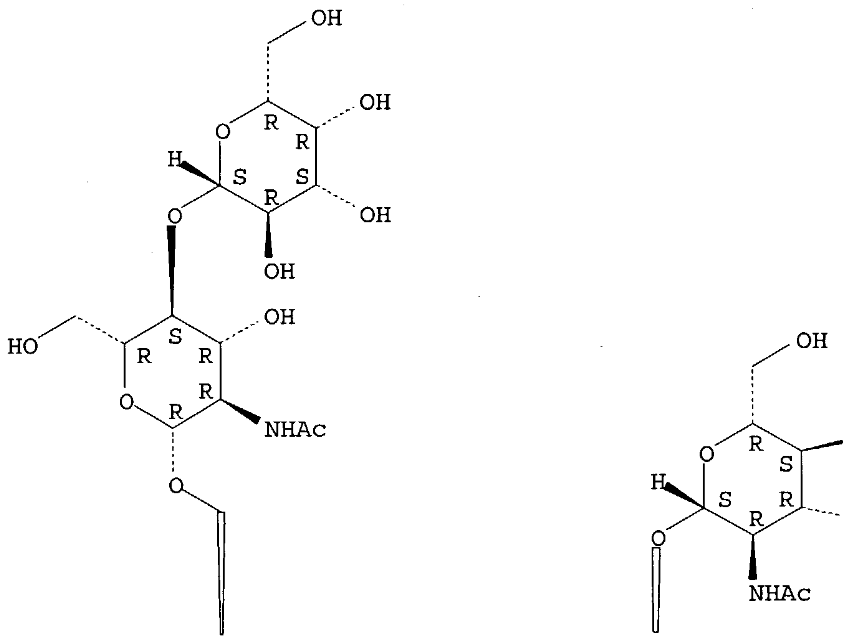
Absolute stereochemistry.

PAGE 1-A



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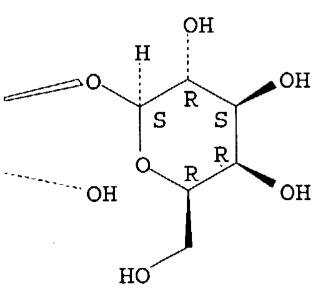

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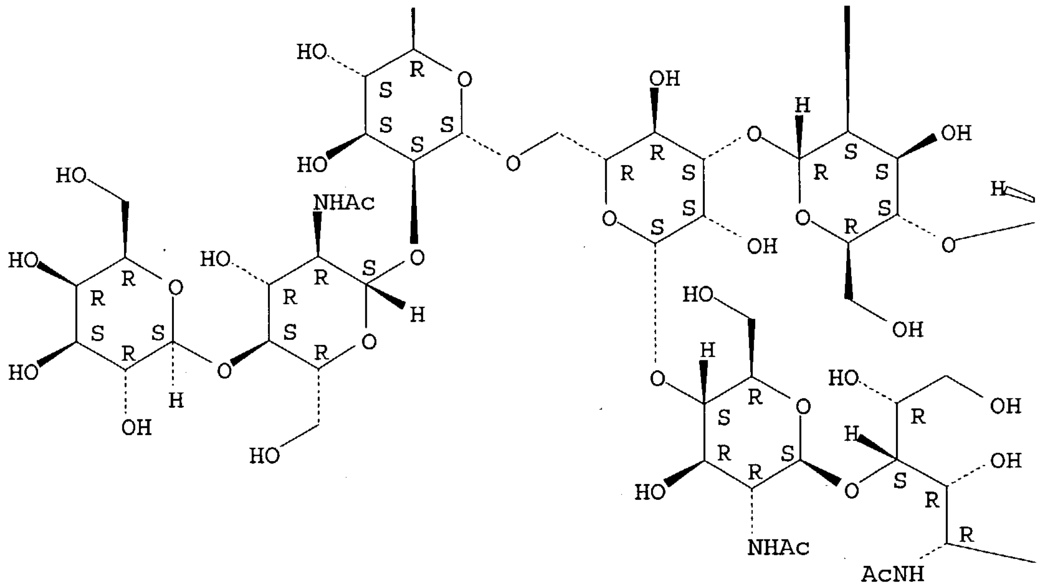

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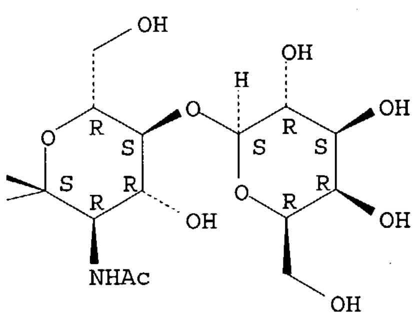
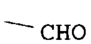




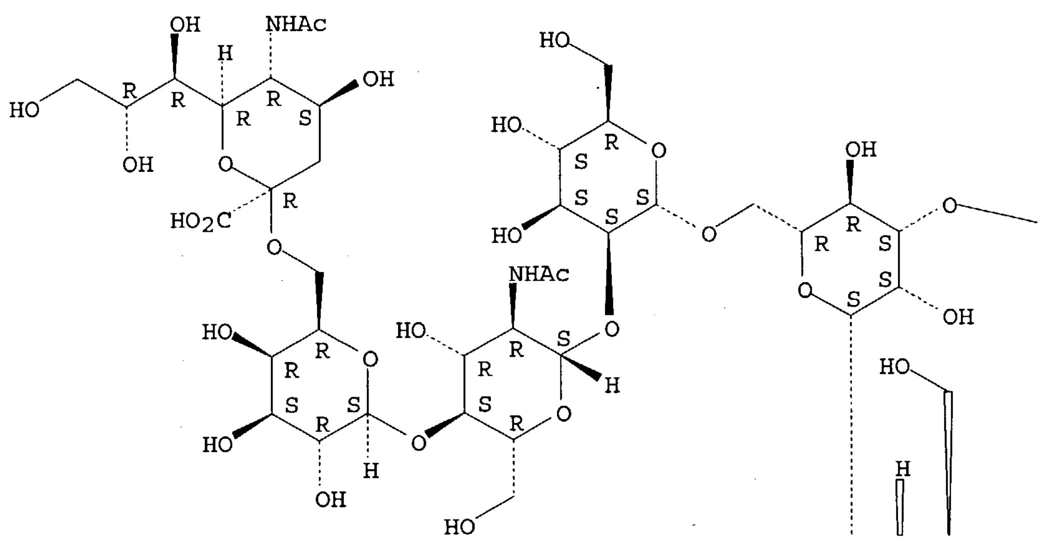
L74 ANSWER 3 OF 12 HCAPLUS
AN 2002:458435 HCAPLUS
DN 138:117255
ED Entered STN: 19 Jun 2002
TI Polymeric inhibitor of influenza virus attachment protects mice from experimental influenza **infection**
AU Gambaryan, A. S.; Tuzikov, A. B.; Chinarev, A. A.; Juneja, L. R.; Bovin, N. V.; Matrosovich, M. N.
CS M.P. Chumakov Institute of Poliomyelitis and Viral Encephalitides, Russian Academy of Medical Sciences, Moscow, 142 782, Russia
SO Antiviral Research (2002), 55(1), 201-205

CODEN: ARSRDR; ISSN: 0166-3542
PB Elsevier Science B.V.
DT Journal
LA English
CC 1-5 (Pharmacology)
AB Synthetic sialic acid-containing macromols. inhibit influenza virus attachment to target cells and suppress the virus-mediated hemagglutination and neutralize virus **infectivity** in cell culture. To test the protective effects of attachment inhibitors in vivo, mice were **infected** with mouse-adapted influenza virus A/Aichi/2/68 (H3N2) and treated with synthetic polyacrylamide-based sialylglycopolymer PAA-YDS bearing moieties of (Neu5Acα2-6Galβ1-4GlcNAcβ1-2Manα1)2-3,6Manβ1-4GlcNAcβ1-4GlcNAc. Single intranasal inoculations with PAA-YDS 30 min before or 10 min after **infection** increased the survival of mice. Multiple treatments with aerosolized PAA-YDS on days 2-5 post **infection** also increased survival, alleviated disease symptoms, and decreased lesions in the mouse lungs. These data suggest that synthetic polyvalent inhibitors of virus attachment can be used for prevention and treatment of influenza.
ST polymeric inhibitor influenza virus **infection** treatment
IT Antiviral agents
Influenza
Influenza A virus
(polymeric inhibitor of influenza virus attachment protects mice from exptl. influenza **infection**)
IT 67391-52-0D, reaction products with sialylglycoside **71496-55-4D**, reaction products with nitrophenyl acrylate homopolymer
RL: **PAC (Pharmacological activity)**; **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(polymeric inhibitor of influenza virus attachment protects mice from exptl. influenza **infection**)
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bovin, N; Glycoconj J 1993, V10, P142 HCAPLUS
(2) Bradley, D; Drug Discov Today 1999, V4, P540
(3) Chinarev, A; Tetravalent Blockers for Influenza Virus Hemagglutinin 1999, P135
(4) Choi, S; J Am Chem Soc 1997, V119, P4103 HCAPLUS
(5) Dintzis, R; J Immunol 1989, V143, P1239 HCAPLUS
(6) Gambaryan, A; Virology 1997, V232, P345 HCAPLUS
(7) Herrler, G; Biology of the Sialic Acids 1995, P315 HCAPLUS
(8) Itoh, M; Virology 1995, V212, P340 HCAPLUS
(9) Kiessling, L; Chem Biol 1996, V3, P71 HCAPLUS
(10) Matrosovich, M; FEBS Lett 1989, V252, P1 HCAPLUS
(11) Mochalova, L; Antiviral Res 1994, V23, P179 HCAPLUS
(12) Ovcharenko, A; Antiviral Res 1994, V23, P107 HCAPLUS
(13) Paulson, J; The Receptors 1985, V2, P131 HCAPLUS
(14) Reuter, J; Bioconjug Chem 1999, V10, P271 HCAPLUS
(15) Skehel, J; Annu Rev Biochem 2000, V69, P531 HCAPLUS
(16) Tuzikov, A; Antiviral Res 1997, V33, P129 HCAPLUS
(17) Tuzikov, A; J Carbohydr Chem 2000, V19, P1191 HCAPLUS
IT **71496-55-4D**, reaction products with nitrophenyl acrylate homopolymer
RL: **PAC (Pharmacological activity)**; **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(polymeric inhibitor of influenza virus attachment protects mice from exptl. influenza **infection**)
RN 71496-55-4 HCAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-

(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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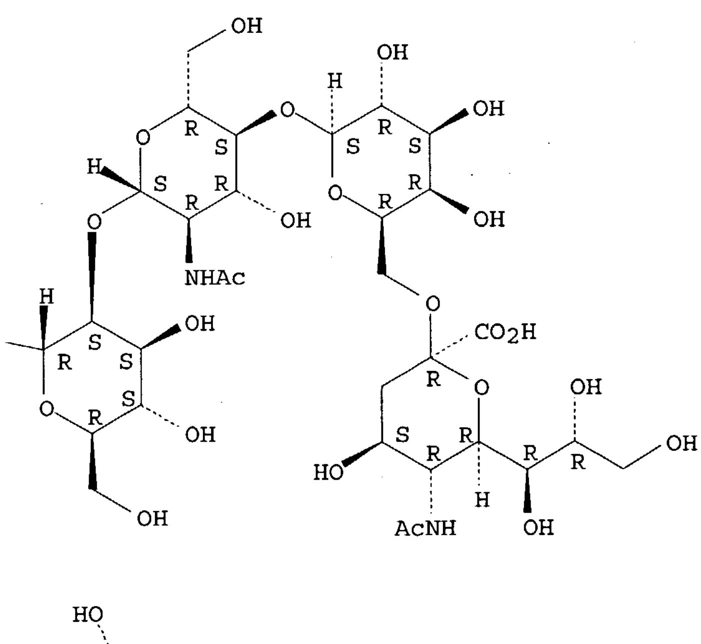

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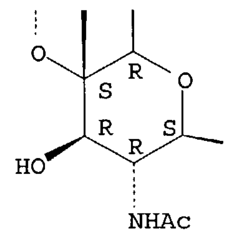

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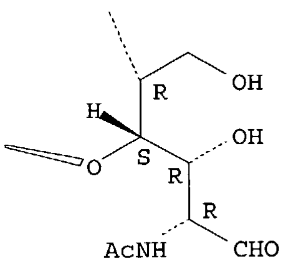


L74 ANSWER 4 OF 12 HCAPLUS
AN 2001:214941 HCAPLUS
DN 134:256860
ED Entered STN: 27 Mar 2001
TI Genetic liposomal vaccines containing oligosaccharides on the surface
IN Mizuochi, Tsugio; Kojima, Naoya; Yasuda, Atsushi
PA Tokai University, Japan; Nippon Zeon Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61K039-00
ICS A61K009-127; A61K031-711; A61P037-04
CC 63-6 (Pharmaceuticals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001081044	A2	20010327	JP 1999-259717	19990914
PRAI	JP 1999-259717		19990914		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001081044	ICM	A61K039-00
	ICS	A61K009-127; A61K031-711; A61P037-04

AB This invention relates to liposomes which contain nucleic acids and oligosaccharides bonded to antigen-presenting cell derived lectin. The liposomes provide adjuvant activities and are highly efficient in inducing cell-mediated immunity when administered to a host. A liposomal vaccine was prepared containing mannopentaose/dipalmitoylphosphatidylethanolamine, dipalmitoylphosphatidylcholine, and pCMV-βGalplasmid.
ST genetic liposome vaccine oligosaccharide lectin
IT Gene therapy
Vaccines
(genetic liposomal vaccines containing oligosaccharides on surface)
IT Agglutinins and Lectins

RL: BSU (Biological study, unclassified); BIOL (Biological study)
(genetic liposomal vaccines containing oligosaccharides on surface)

IT DNA
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(genetic liposomal vaccines containing oligosaccharides on surface)

IT Nucleic acids
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(genetic liposomal vaccines containing oligosaccharides on surface)

IT Oligosaccharides, biological studies
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(genetic liposomal vaccines containing oligosaccharides on surface)

IT Drug delivery systems
(liposomes; genetic liposomal vaccines containing oligosaccharides on surface)

IT Plasmids
(pCMV-βGal; genetic liposomal vaccines containing oligosaccharides on surface)

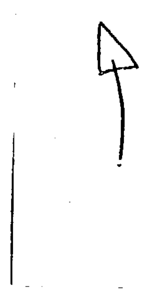
IT 57-88-5D, Cholesterol, glycolipids containing 2644-64-6D, Dipalmitoylphosphatidylcholine, glycolipids containing 5681-36-7D, Dipalmitoylphosphatidylethanolamine, glycolipids containing 34141-02-1D, glycolipids containing **71246-55-4D**, glycolipids containing 112828-69-0D, glycolipids containing 129583-07-9D, glycolipids containing 137056-72-5D, 3β-[N-[2-(N,N-Dimethylamino)ethyl]carbamoyl]cholesterol , glycolipids containing 149952-31-8D, glycolipids containing
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(genetic liposomal vaccines containing oligosaccharides on surface)

IT **71246-55-4D**, glycolipids containing
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(genetic liposomal vaccines containing oligosaccharides on surface)

RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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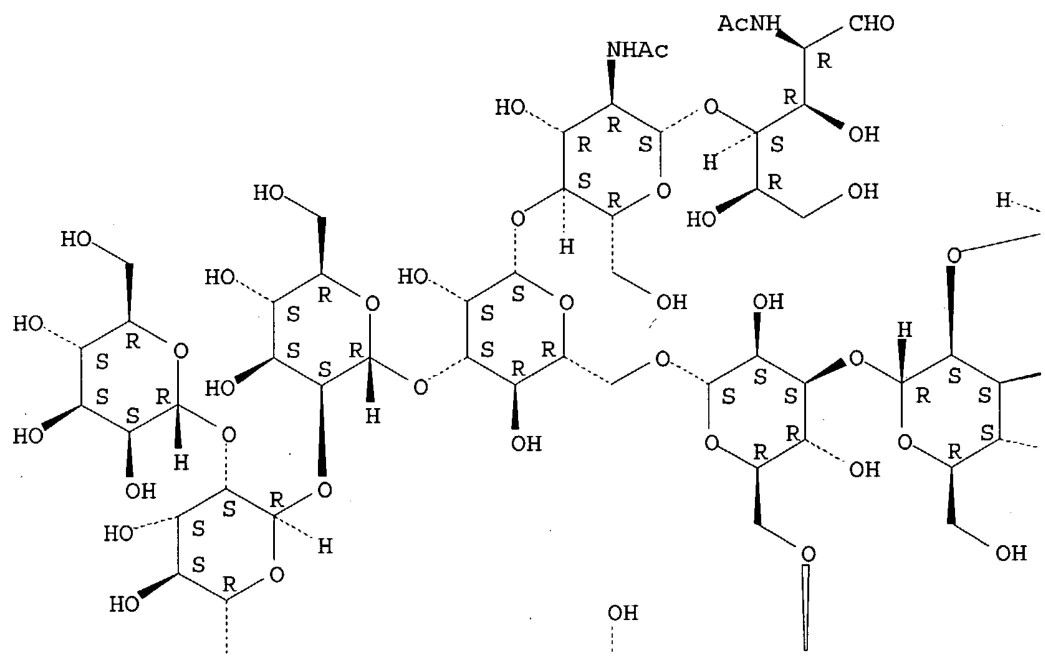

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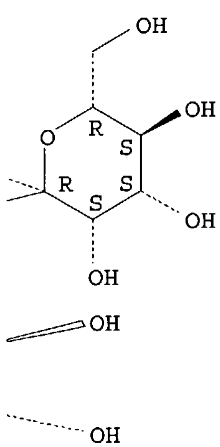

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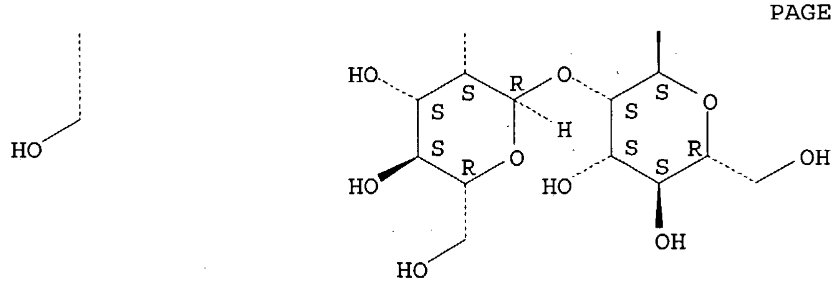

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L74  ANSWER 5 OF 12  HCAPLUS  COPYRIGHT 2004 ACS on STN
AN   2000:742234  HCAPLUS
DN   133:295375
ED   Entered STN:  20 Oct 2000
TI   Method for controlling the activity of immunologically functional molecule
IN   Hanai, Nobuo; Nakamura, Kazuyasu; Shoji, Emi; Yamasaki, Motoo; Uchida,
     Kazuhisa; Shinkawa, Toyohide; Imabeppu, Susumu; Kanda, Yutaka; Yamane,
     Naoko; Anazawa, Hideharu
PA   Kyowa Hakko Kogyo Co., Ltd., Japan
SO   PCT Int. Appl., 83 pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
IC   ICM  C12N015-09
     ICS  C12P021-00; C12P021-08; A61K039-00; G01N033-53
CC   15-3 (Immunochemistry)
     Section cross-reference(s): 1, 3
FAN.CNT 1
     PATENT NO.          KIND   DATE          APPLICATION NO.        DATE
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PI   WO 2000061739        A1    20001019      WO 2000-JP2260         20000407
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
             CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
             ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV,
             MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG,
             SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
        RW:  GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     EP 1176195           A1    20020130      EP 2000-915403         20000407
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
PRAI JP 1999-103158       A     19990409
     WO 2000-JP2260       W     20000407
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 2000061739   ICM    C12N015-09
                 ICS    C12P021-00; C12P021-08; A61K039-00; G01N033-53
 EP 1176195      ECLA   C07K016/28H; C07K016/30
AB   A method for controlling the activity of an immunol. functional mol. such
     as an antibody, a protein or a peptide; a promoter of the activity of an
     immunol. functional mol.; and an immunol. functional mol. having a
     promoted immunol. functional activity.  The immunol. functional mol.
     contains carbohydrate moiety having reduced N-glycoside or
     N-acetylglucosamine terminal with/without fucose linkage.  The immunol.
     functional mols. are useful for diagnosis and treatment of cancers,
     autoimmune diseases, allergies, circulation system diseases,
     inflammations, and viral or bacterial infections.
ST   antibody glycoside cancer autoimmune disease infection
IT   Animal cell line
        (ATCC CRL1662; antibodies or proteins containing reduced N-glycosides or
        N-acetylglucosamines with or without fucose linkage for diagnosis and
        therapy of cancer, autoimmune disease)
IT   Glycosides
     RL: BSU (Biological study, unclassified); THU (Therapeutic use);
     BIOL (Biological study); USES (Uses)
        (N-; antibodies or proteins containing reduced N-glycosides or
        N-acetylglucosamines with or without fucose linkage for diagnosis and
        therapy of cancer, autoimmune disease, allergy, circulation disease and
```

viral or bacterial **infection**)

IT Allergy
Allergy inhibitors
Animal virus
Anti-inflammatory agents
Antibacterial agents
Antitumor agents
Antiviral agents
Autoimmune disease
Immunosuppressants
Inflammation
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Antigens
Interleukin 5 receptors
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Multiple myeloma
Rat
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT Antibodies
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT Enzymes, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT Carbohydrates, biological studies
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT Antigens
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(autoantigens; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT **Infection**
(bacterial; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Diagnosis
(cancer; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Neoplasm

(diagnosis; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Circulation
(disorder; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Peptides, biological studies
Proteins, general, biological studies
RL: BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(immunol. functional; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT Biochemical molecules
(immunol.; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT Antigens
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(tumor-associated; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT **Infection**
(viral; antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease)

IT 56626-18-7, Fucosyltransferase 62010-37-1, Ganglioside GD3 113670-18-1
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

IT 2438-80-4 7512-17-6 **70858-45-6**
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(antibodies or proteins containing reduced N-glycosides or N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Behringwerke Aktinen Gesellschaft; JP 06319554 A HCAPLUS
(2) Behringwerke Aktinen Gesellschaft; CA 2122745 A HCAPLUS
(3) Behringwerke Aktinen Gesellschaft; DE 4314556 A1 HCAPLUS
(4) Behringwerke Aktinen Gesellschaft; AU 9461829 A HCAPLUS
(5) Behringwerke Aktinen Gesellschaft; EP 623352 A2 1994 HCAPLUS
(6) Biogen Inc; JP 08507680 A
(7) Biogen Inc; EP 678122 A1 HCAPLUS
(8) Biogen Inc; AU 9459936 A HCAPLUS
(9) Biogen Inc; WO 9416094 A2 1994 HCAPLUS
(10) Iain, B; Glycoconjugate Journal 1998, V15(11), P1055
(11) Kenya, S; Journal of Immunological Methods 1994, V167(1-2), P271
(12) Kyowa Hakko Kogyo Kk; JP 10257893 A HCAPLUS
(13) Kyowa Hakko Kogyo Kk; AU 9859420 A HCAPLUS
(14) Kyowa Hakko Kogyo Kk; EP 882794 A2 1998 HCAPLUS

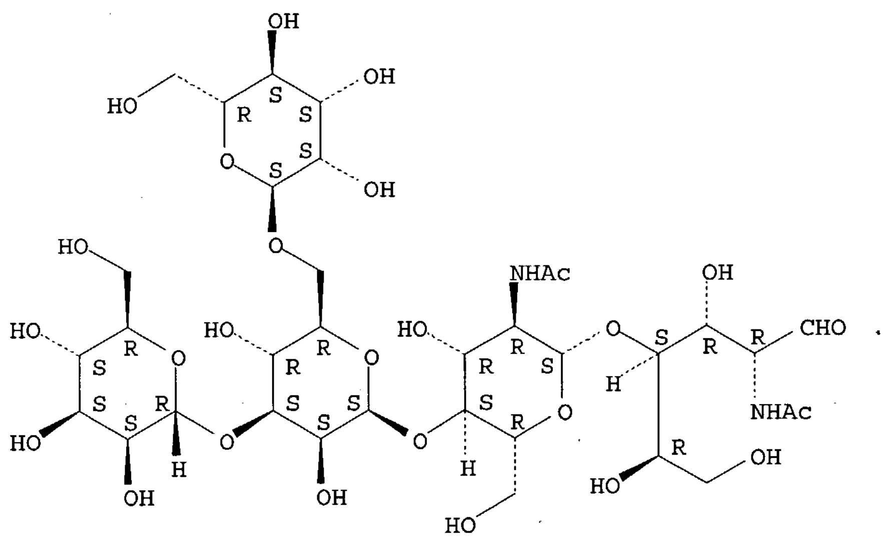
IT **70858-45-6**
RL: BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(antibodies or proteins containing reduced N-glycosides or

N-acetylglucosamines with or without fucose linkage for diagnosis and therapy of cancer, autoimmune disease, allergy, circulation disease and viral or bacterial **infection**)

RN 70858-45-6 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L74 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:518252 HCAPLUS

DN 131:153726

ED Entered STN: 19 Aug 1999

TI Inhibition of bacterial binding by high-mannose oligosaccharides, and method for the treatment of Gram-negative bacterial **infections**

IN Smith, Sam; Elbein, Alan D.; Pan, Y. T.

PA The Board of Trustees of the University of Arkansas, USA

SO U.S., 20 pp.
CODEN: USXXAM

DT Patent

LA English

IC ICM G01N033-554
ICS G01N033-53; C12Q001-18

NCL 435007320

CC 1-5 (**Pharmacology**)
Section cross-reference(s): 10

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5939279	A	19990817	US 1997-932876	19970918 <--
PRAI	US 1997-932876		19970918 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5939279	ICM	G01N033-554
	ICS	G01N033-53; C12Q001-18
	NCL	435007320

AB A method is provided for the treatment of Gram-neg. bacterial **infections** using high-mannose containing oligosaccharides.

Specifically, the invention describes the use of Man9 (GlcNAc)2-hydrophobic glycopeptides (i.e. tyrosinamide) to block adhesion of the bacteria pili to the oligosaccharide of the host cells plasma membrane in **infections** of Enterobacter cloacae and other Enterobacter and gram-neg. species.

ST high mannose oligosaccharide bacterial **infection** treatment; Gram neg bacterial **infection** mannose oligosaccharide; Enterobacter **infection** treatment high mannose oligosaccharide; tyrosinamide high mannose oligosaccharide antibacterial

IT Adhesins
RL: PUR (Purification or recovery); PREP (Preparation)
(Enterobacter cloacae pili; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Pilus
(Enterobacter cloacae, adhesin from; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Soybean (Glycine max)
(agglutinin, high-mannose oligosaccharide-tyrosinamide from; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Animal cell
(bacterial binding; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Bacteria (Eubacteria)
(bacterial-cell binding; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT **Antibacterial agents**
Cell adhesion
Enterobacter cloacae
Gram-negative bacteria
Protein sequences
(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Oligosaccharides, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT Agglutinins and Lectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(soy bean, high-mannose oligosaccharide-tyrosinamide from; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT 237743-58-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT 617-04-9 3458-28-4, Mannose 6614-35-3 34141-02-1 69401-47-4 **71246-55-4** 72741-87-8, Swainsonine 79831-76-8, Castanospermine **84182-22-9** 84444-90-6, Deoxymannojirimycin 109944-15-2, Kifunensine 112828-69-0 164121-22-6 164121-23-7 164121-31-7 **220696-55-9**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**

(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT 237743-63-4 237743-64-5 237743-65-6
RL: PRP (Properties)
(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

IT 37211-66-8, Mannosidase 82047-77-6, Mannosidase II
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Eden; Current Topics in Microbiology 1990, V151, P167
(2) Elbein; FASEB 1991, V5, P3055 HCAPLUS
(3) Firon; Biochem Biophys Res Commun 1982, V105, P1426 HCAPLUS
(4) Jones; Proc Natl Acad Sci USA 1995, V92, P2081 HCAPLUS
(5) Wold; Infection and Immunity 1990, V58(9), P3073 HCAPLUS

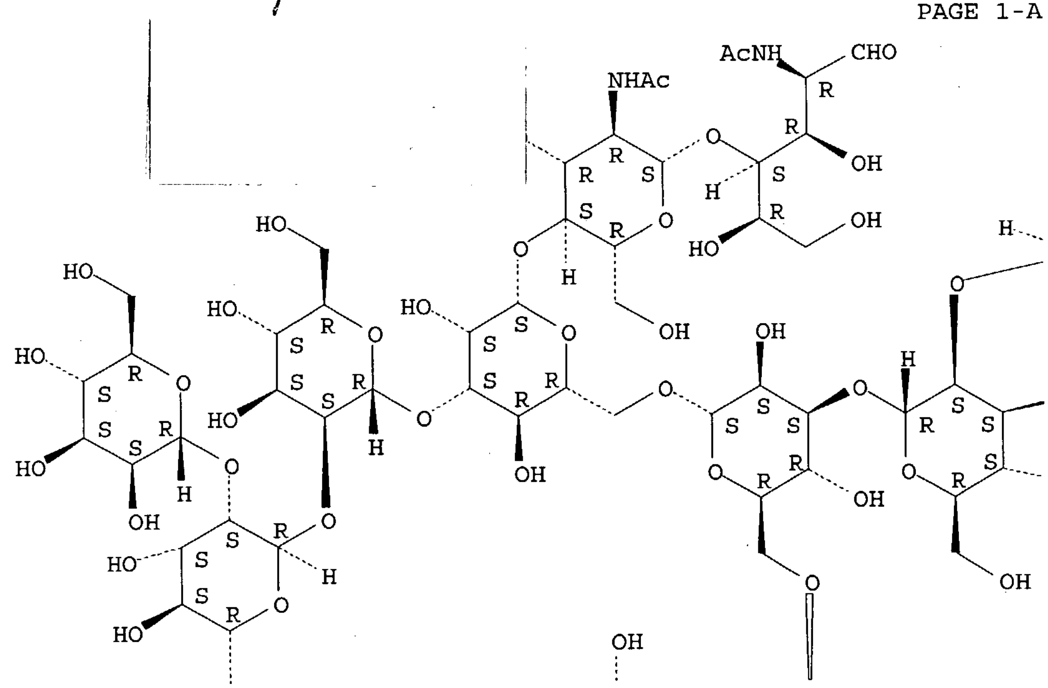
IT **71246-55-4 84182-22-9 220696-55-9**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(high-mannose oligosaccharides for inhibition of bacterial binding, and method for treatment of Gram-neg. bacterial **infections**)

RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute s

PAGE 1-A



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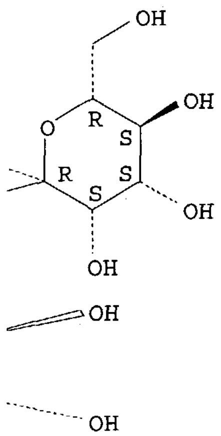

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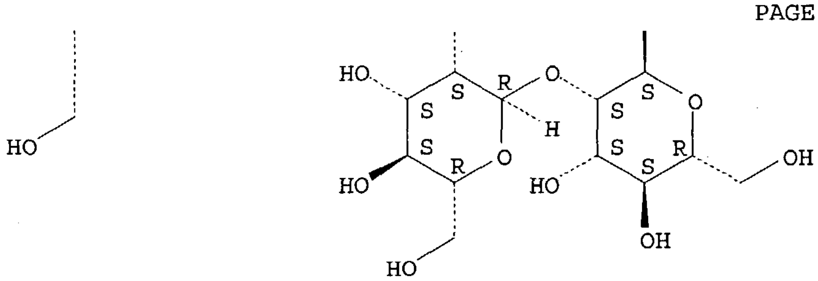
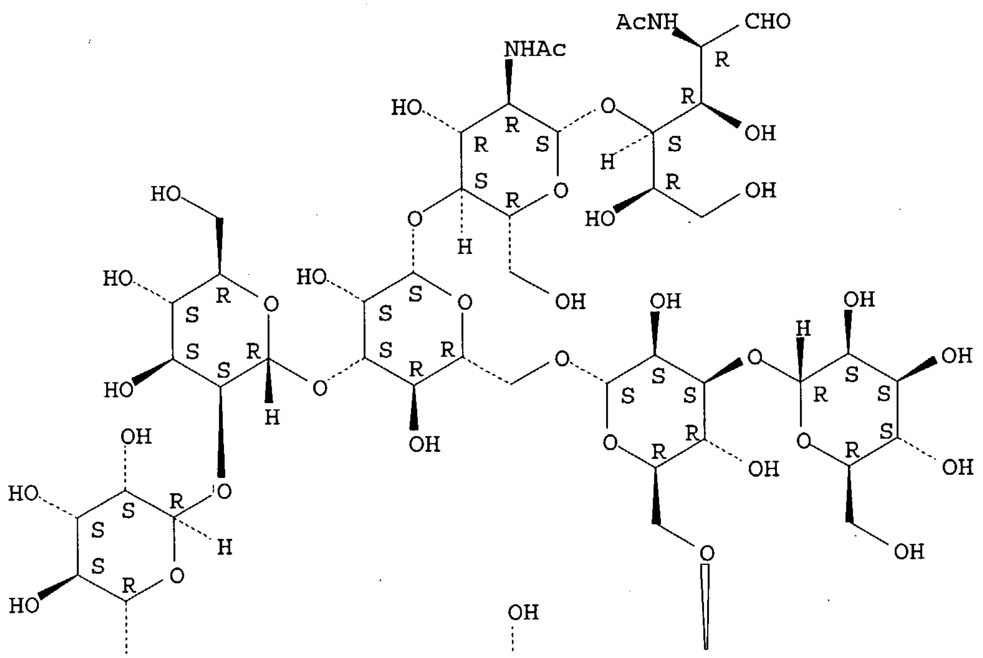


RN 84182-22-9 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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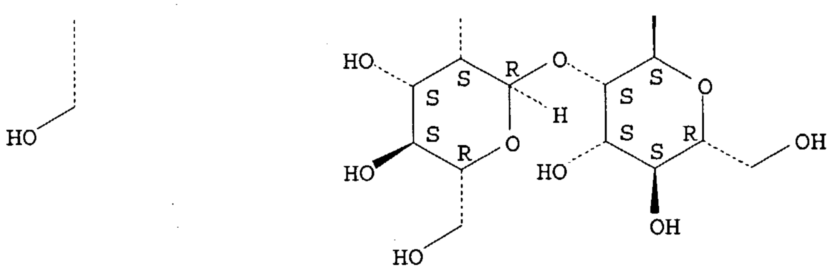

RN 220696-55-9 HCAPLUS

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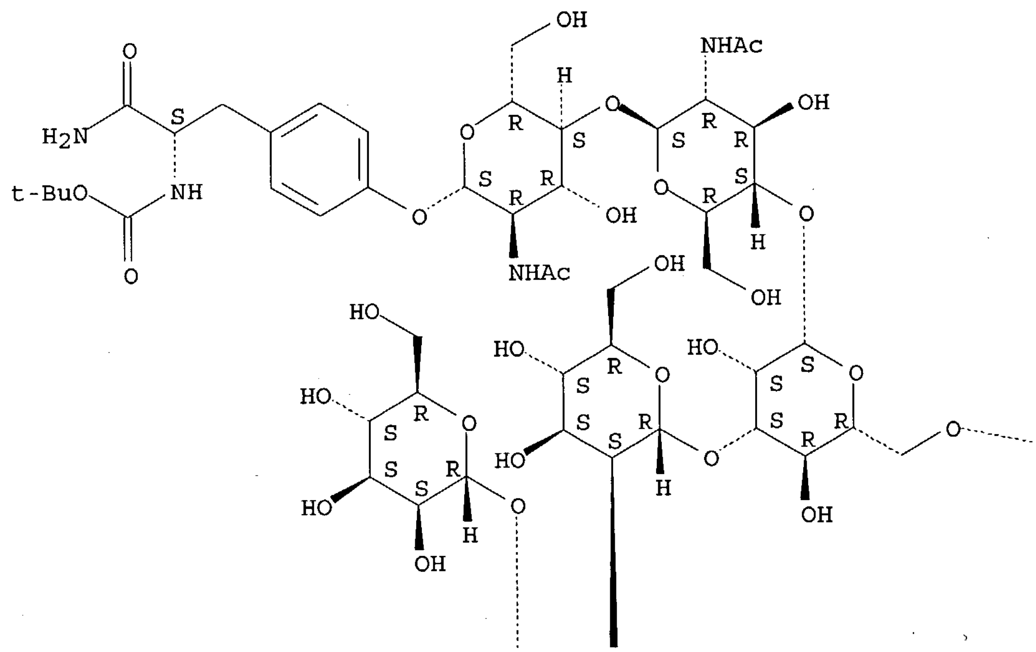
Absolute stereochemistry.

PAGE 1-A



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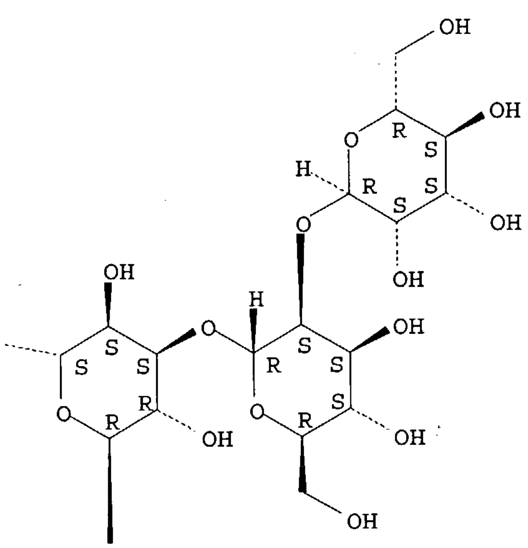

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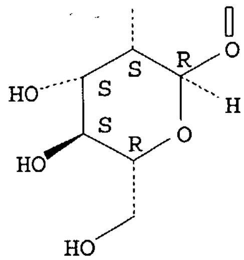

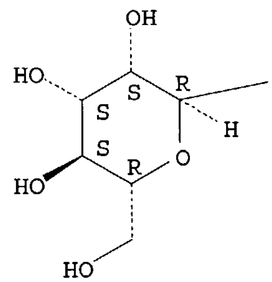

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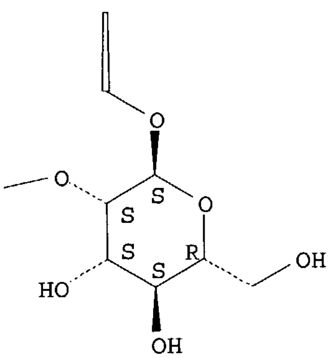

L74 ANSWER 7 OF 12 HCAPLUS
AN 1998:352961 HCAPLUS
DN 129:37202
ED Entered STN: 11 Jun 1998
TI Novel polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes
IN Midoux, Patrick; Monsigny, Michel
PA I.D.M. Immuno-Designed Molecules, Fr.; Midoux, Patrick; Monsigny, Michel
SO PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DT Patent
LA French
IC ICM C12N015-88
ICS A61K048-00
CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 33, 34
FAN.CNT 1

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        GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA,
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    FR 2755976          B1     19990115
    CA 2267833          AA     19980528    CA 1997-2267833      19971110 <--
    AU 9851239          A1     19980610    AU 1998-51239        19971110 <--
    AU 742818           B2     20020110
    EP 946744           A1     19991006    EP 1997-945903       19971110 <--
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    US 6372499          B1     20020416    US 1999-297519       19990503 <--
PRAI FR 1996-13990      A      19961115  <--
    WO 1997-FR2022      W      19971110  <--
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
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 WO 9822610      ICM    C12N015-88
                 ICS    A61K048-00
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OS MARPAT 129:37202

AB The invention concerns a complex between at least a (neg. charged) nucleic acid and at least a pos. charged polymeric conjugate, the bond between the nucleic acid and the polymeric conjugate being electrostatic in nature, the polymeric conjugate containing a polymer formed by monomer units bearing free NH3+ functions, and being such that: the free NH3+ functions of said monomer units are substituted in a ratio of ≥10 % by residues causing in weak acid medium destabilization of cell membranes, in particular the endocytosis vesicle membrane, and/or endosomes; said residues having further the following properties: they comprise a functional group for being fixed to said polymer, they are not active as recognition signal identified by a cell membrane receptor, they can comprise at least one free NH3+ function; said uncharged residues having further the following properties: they comprise at least a hydroxyl group, they are not active as recognition signal identified by a cell membrane receptor, the hydroxyl groups of said uncharged residues being capable of being substituted by at least a mol. which constitutes a recognition signal identified by a cell membrane receptor, with reservation that the whole set of free NH3+ functions is at least 30 % of the number of monomer units of the polymeric network of said polymeric conjugate.

ST gene transfection polymer complex oligosaccharide prepn

IT **Immunodeficiency**
(ADA; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Histocompatibility antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(HLA-B7, gene encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Lipoprotein receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(LDL, gene encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Histocompatibility antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(MHC (major histocompatibility complex), gene encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT **Vaccines**
(antigens for; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Polyelectrolytes

(cationic, nucleic acid conjugates; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Receptors
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(cell membrane; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Nervous system
(central; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Cell membrane
(destabilization; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Organelle
(endocytic vesicle; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Blood vessel
(endothelium; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Respiratory tract
(epithelium; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Muscle
(fiber; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Antibiotic resistance
(gene conferring; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Dystrophin
Tumor necrosis factors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Antisense RNA
RNA
Ribozymes
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(genes encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Liver
(hepatocyte; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Skin
(keratinocyte; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Fibronectins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ligands; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Enzymes, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(lysosomal, genes encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Lymphocyte
(natural killer cell; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Influenza virus
(nucleoproteins of, genes encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Nucleoproteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(of influenza virus, genes encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Hormones, animal, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(peptide; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Acidity
Aequorea victoria
Alzheimer's disease
Cystic fibrosis
Dendritic cell
Endosome
Fibroblast
Gaucher disease
Hydroxyl group
Lymphocyte
Macrophage
Melanocyte
Molecular cloning
Neoplasm
Parkinson's disease
Phenylketonuria
Skin
Transformation, genetic
pH
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Nucleic acids
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Annexins
Chemotactic factors
RGD peptides
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Aequorins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT CFTR (cystic fibrosis transmembrane conductance regulator)
Cytokines
Interleukins
Polyamides, biological studies
Polymers, biological studies
Quaternary ammonium compounds, biological studies
Reporter gene
RL: PEP (Physical, engineering or chemical process); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Protein motifs

(recognition signals; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Genetic element
RL: PEP (Physical, engineering or chemical process); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(signal sequence; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Blood vessel
(smooth muscle; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Hematopoietic precursor cell
(stem; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT Human herpesvirus
(thymidine kinase of; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 9002-06-6, Thymidine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding, of Herpes simplex virus; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 9001-28-9, Factor ix 9014-00-0, Luciferase 9025-05-2, Cytosine deaminase 9026-93-1, Adenosine deaminase 9029-73-6, Phenylalanine hydroxylase 9031-11-2, β-Galactosidase 9036-22-0, Tyrosine hydroxylase 9040-07-7, Chloramphenicol acetyl transferase 113189-02-9, Factor viii
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene encoding; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 58-85-5, Biotin 59-30-3, Folic acid, biological studies 135-16-0
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 58-82-2, Bradykinin 37213-49-3, α-MSH 37221-79-7, Vip 40077-57-4, Vasoactive intestinal octacosapeptide (swine) 59880-97-6 **77036-51-2** **82867-73-0** **82867-74-1** 85637-73-6, ANP 85985-42-8 91917-63-4, Atrial natriuretic peptide-28 (human reduced) 118850-72-9 140913-62-8 **208337-46-6** **208337-47-7** 208342-23-8 **208342-24-9**
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 1404-04-2, Neomycin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 14798-03-9, Ammonium ion, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 51-45-6, Histamine, biological studies 59-67-6, Nicotinic acid, biological studies 70-26-8, Ornithine 71-00-1, Histidine, biological studies 86-68-0, Quininic acid 89-00-9, Quinolinic acid 90-34-6, Primaquine 91-22-5D, Quinoline, derivs., biological studies 110-86-1D, Pyridine, derivs., biological studies 119-24-4, Pteroic acid 288-32-4D, Imidazole, derivs. 305-84-0, Carnosine 501-75-7 526-95-4D, Gluconic acid, derivs. 644-42-8 645-65-8,

1H-Imidazole-4-acetic acid 2236-60-4D, Pterin, derivs. 2466-76-4, Acetyl imidazole 4298-14-0 7212-31-9 9041-92-3, α1-Antitrypsin 9061-61-4, Nerve growth factor 14403-45-3 16042-25-4, 1H-Imidazole-2-carboxylic acid 25104-18-1, Polylysine 26469-60-3, Quinoline carboxylic acid 28095-60-5 38000-06-5, Polylysine
RL: PEP (Physical, engineering or chemical process); **THU (Therapeutic use)**; BIOL (Biological study); PROC (Process); **USES (Uses)**
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 25988-63-0P, Polylysine hydrobromide
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 104-15-4, reactions 5961-85-3, Tris-carboxyethylphosphine 7087-68-5, Diisopropylethylamine 20866-46-0 56602-33-6 112241-19-7 208342-20-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 25104-18-1DP, Polylysine, reaction products with 4-carbonyl-α-methyl-α-(2-pyridinyldithio)toluene N-hydroxysuccinimide 208342-19-2P 208342-21-6P 208342-22-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 6379-56-2, Hygromycin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(resistance to; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

IT 56-87-1, L-Lysine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ε-amino group of; polymeric complexes for the transfection of nucleic acids, with residues causing the destabilization of cell membranes)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Advanced Magnetics Inc; WO 9211037 A 1992 HCAPLUS
(2) Boehringer Ingelheim Int Inc; WO 9213570 A 1992 HCAPLUS
(3) Boehringer Ingelheim International Inc; EP 0387775 A 1990 HCAPLUS
(4) Boehringer Ingelheim International Inc; EP 0388758 A 1990 HCAPLUS
(5) Hoffmann-La Roche; FR 2107756 A 1972 HCAPLUS
(6) Idm Immuno-Designed Molecules; FR 2719316 A 1995 HCAPLUS
(7) Mezo, G; BIOPOLYMERS 1993, V33(6), P873 HCAPLUS
(8) Midoux, P; NUCLEIC ACIDS RESEARCH 1993, V21(4), P871 HCAPLUS
(9) Takeda Chemical Industries Ltd; EP 0350246 A 1990 HCAPLUS
(10) Wang, C; BIOCHEMISTRY 1984, V23(19), P4409 HCAPLUS
(11) Wu, G; US 5166320 A 1992 HCAPLUS

IT **77036-51-2 82867-73-0 82867-74-1 208337-46-6 208337-47-7 208342-24-9**
RL: BPR (Biological process); BSU (Biological study, unclass (Physical, engineering or chemical process); PRP (Properties) **(Therapeutic use)**; BIOL (Biological study); PROC (Process); U **(Uses)**
(polymeric complexes for the transfection of nucleic acids residues causing the destabilization of cell membranes)

RN 77036-51-2 HCAPLUS
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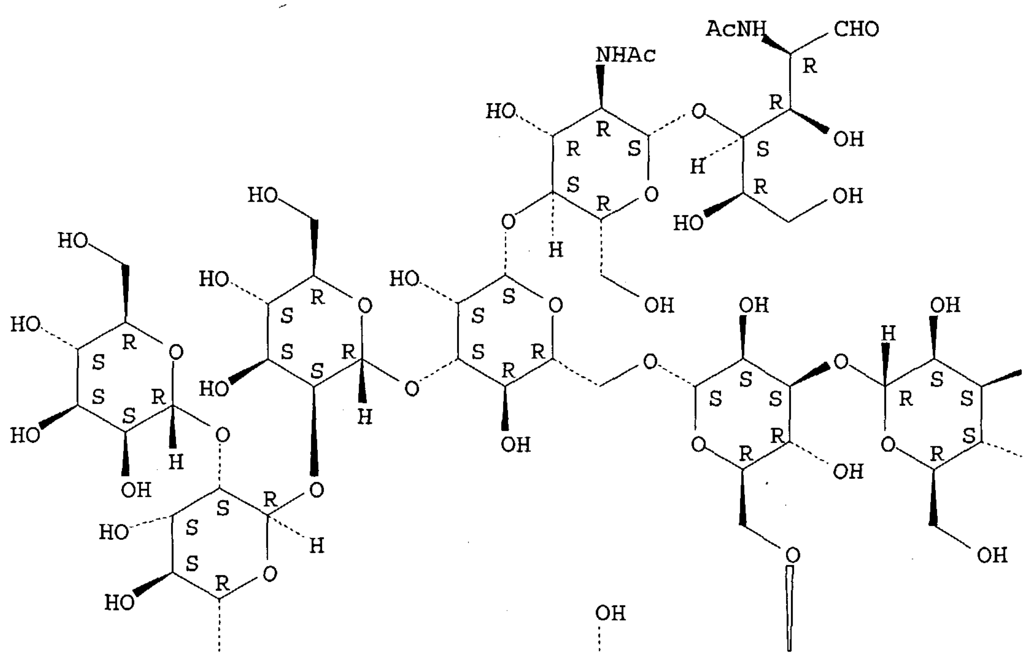
(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-
2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

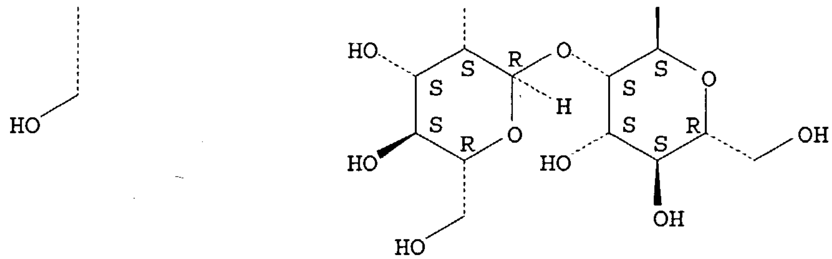


PAGE 1-B

OH

OH

PAGE 2-A



RN 82867-73-0 HCAPLUS
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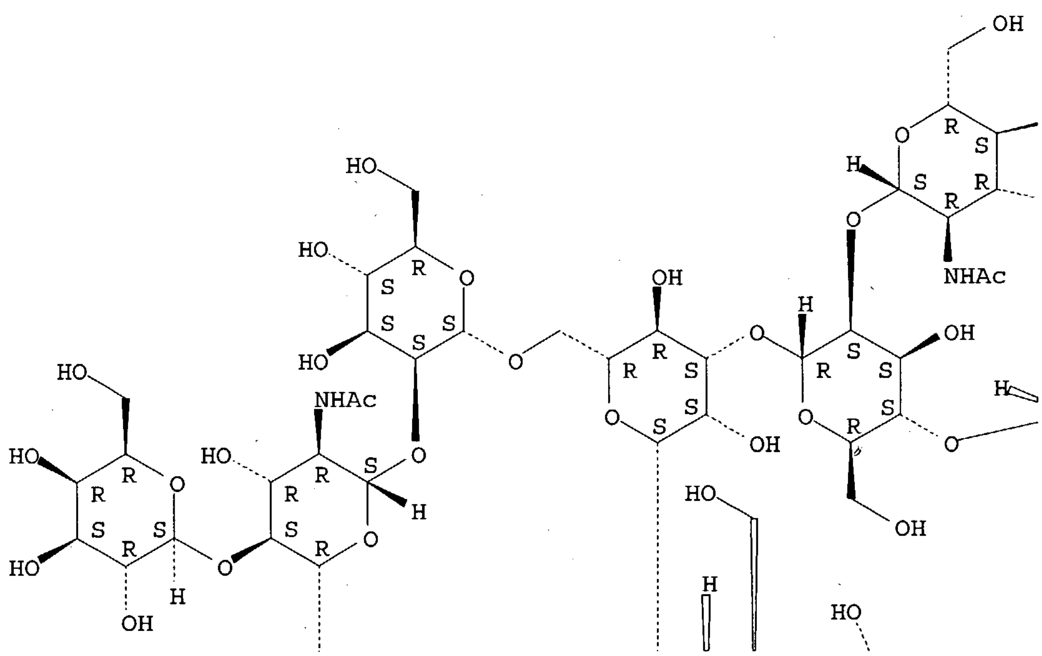
Absolute stereochemistry.

PAGE 1-A



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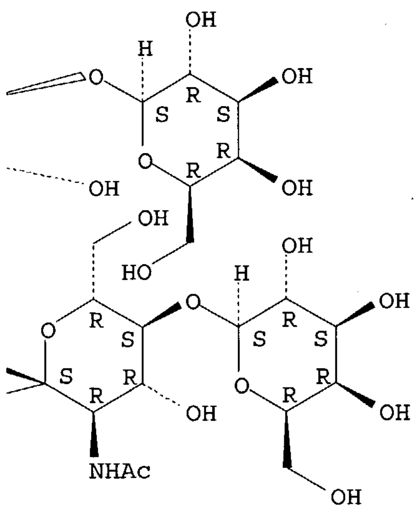

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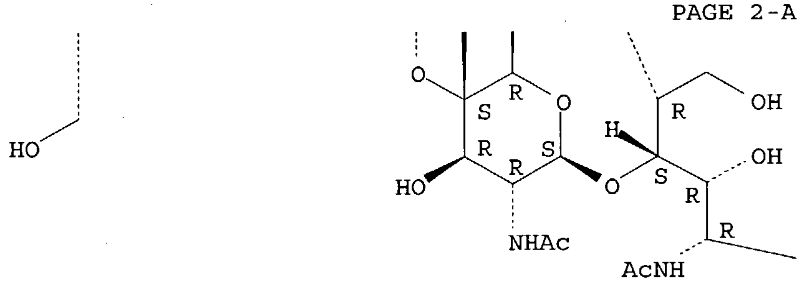

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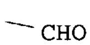

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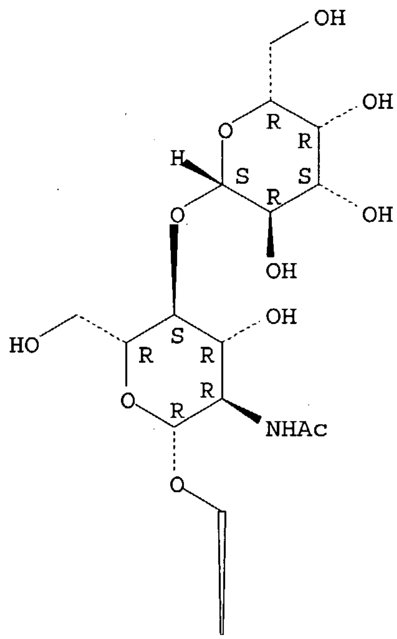
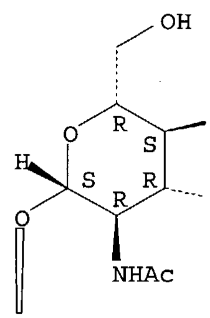
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→6)]-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





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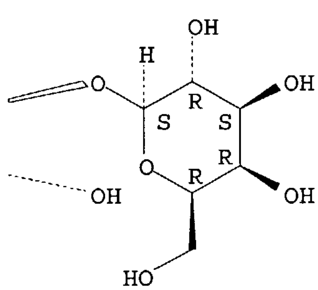

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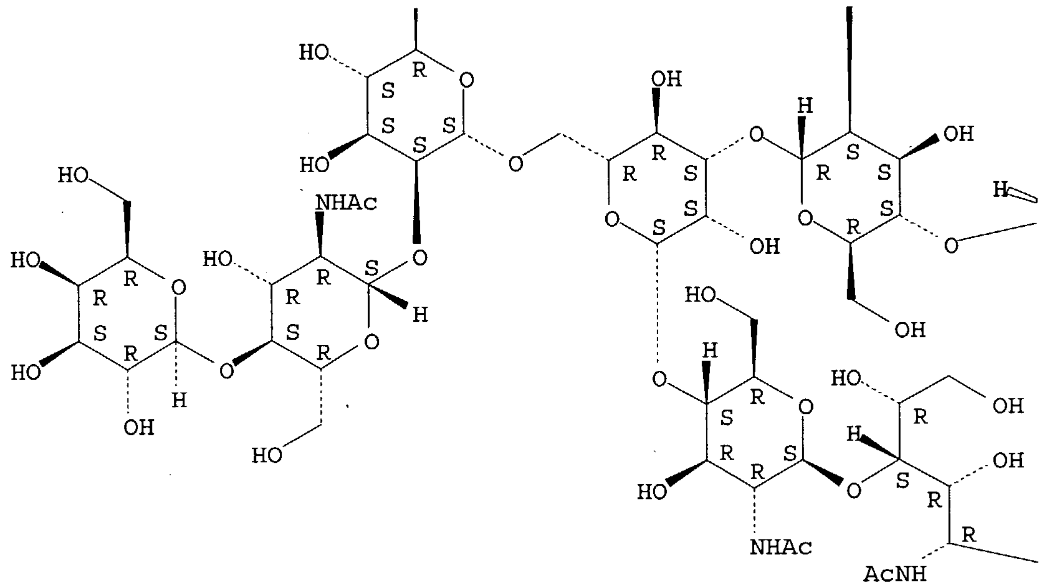

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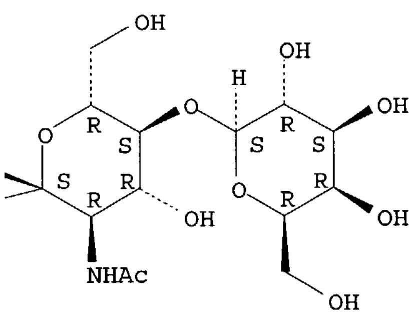
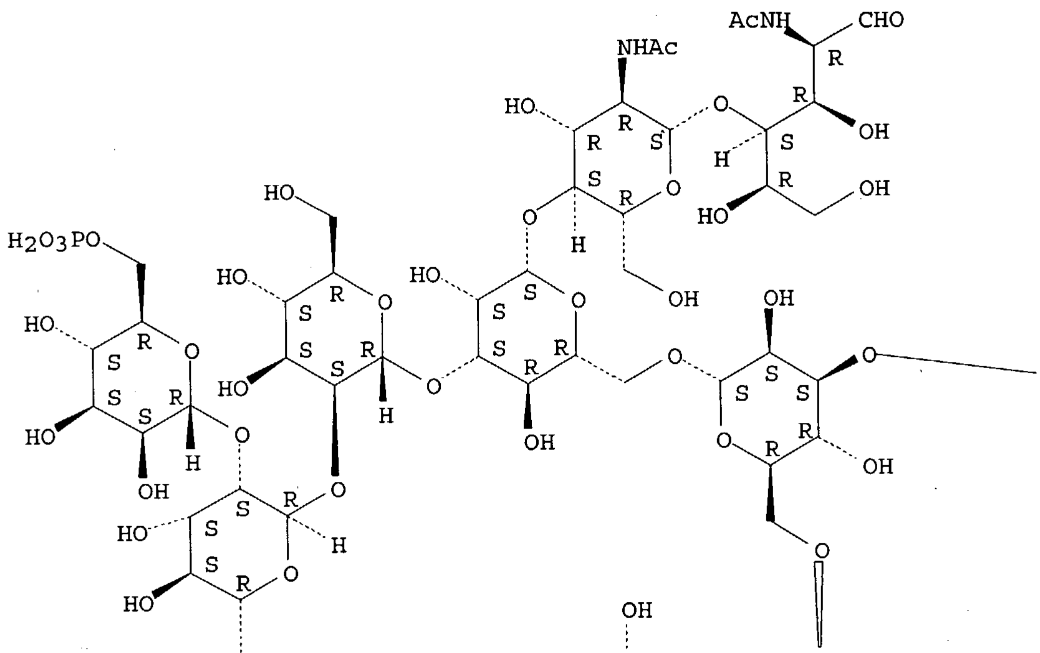


— CHO

RN 208337-46-6 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-6-O-phosphono-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-6-O-phosphono-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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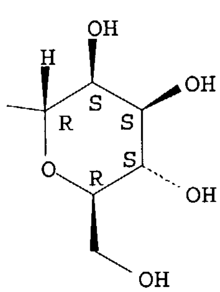

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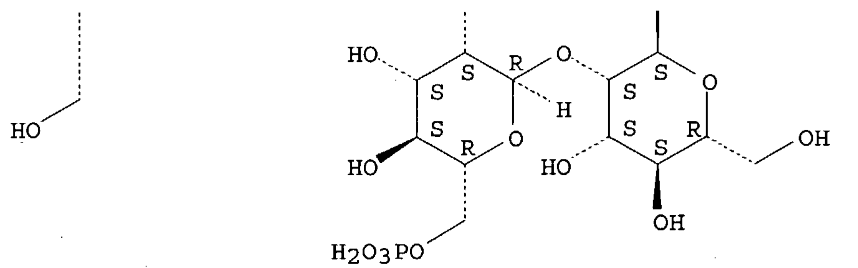
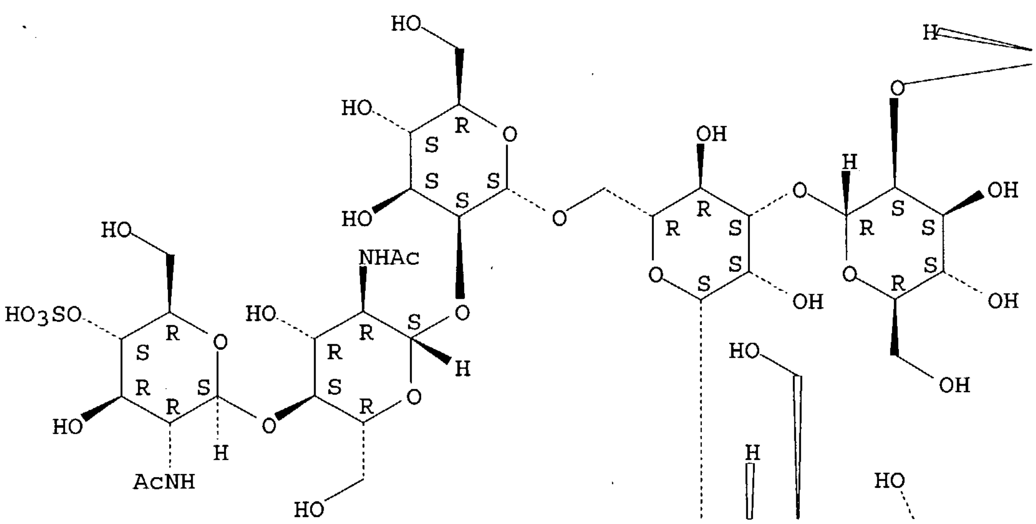


RN 208337-47-7 HCAPLUS

CN D-Glucose, O-2-(acetylamino)-2-deoxy-4-O-sulfo-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-2-(acetylamino)-2-deoxy-4-O-sulfo-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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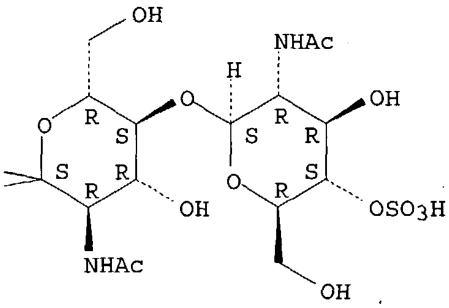

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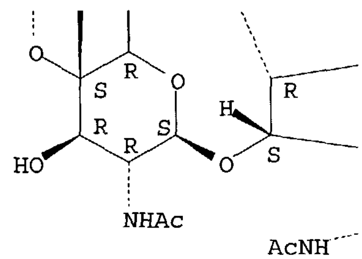

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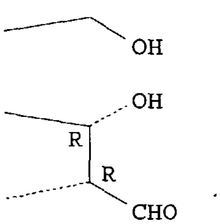


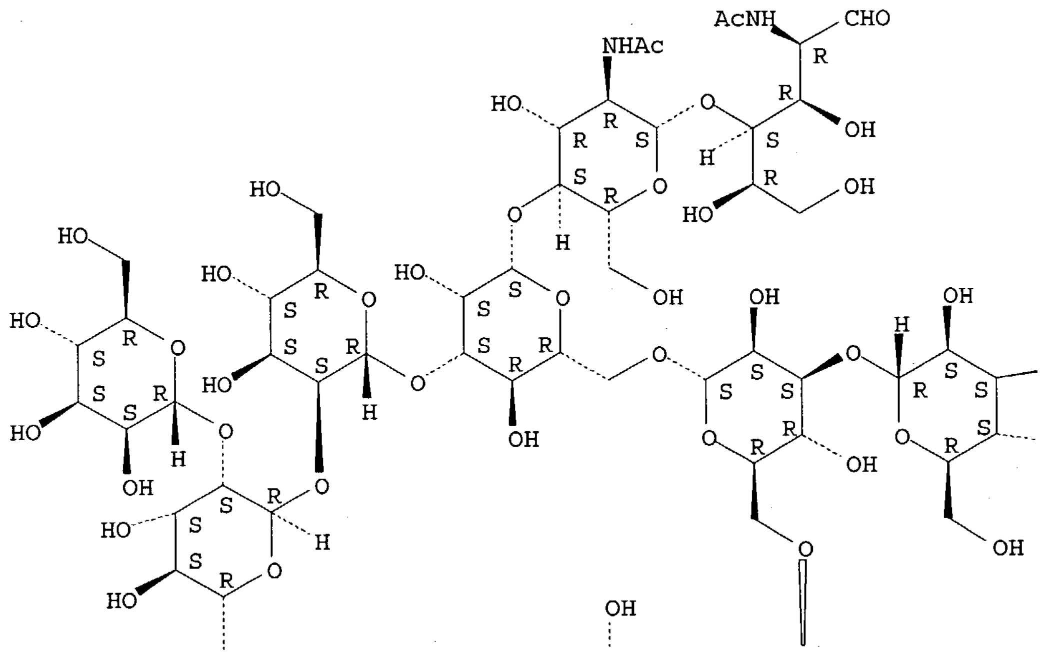
RN 208342-24-9 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-6-O-phosphono-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-6-O-phosphono-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

4

PAGE 1-A



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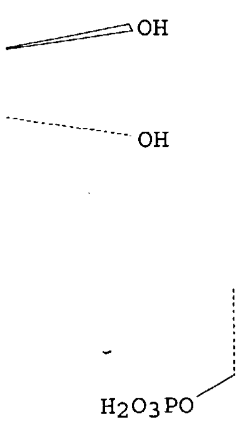

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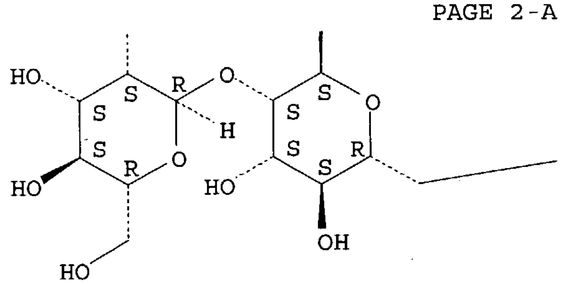


PAGE 2-B

—OPO3H2

L74 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:87591 HCAPLUS
DN 128:171946
ED Entered STN: 14 Feb 1998
TI Reduction of hair growth by inhibiting the formation of glycoproteins
IN Henry, James P.; Ahluwalia, Gurpreet S.; Kaszynski, Edwin; Shander, Douglas
PA Handelman, Joseph, H., USA; Henry, James P.; Ahluwalia, Gurpreet S.; Kaszynski, Edwin; Shander, Douglas
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K007-06
CC 62-3 (Essential Oils and Cosmetics)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9803149	A1	19980129	WO 1997-US11990	19970716	<--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
	US 5908867	A	19990601	US 1996-684287	19960718	<--
	AU 9735995	A1	19980210	AU 1997-35995	19970716	<--
	EP 938286	A1	19990901	EP 1997-932567	19970716	<--
	EP 938286	B1	20031105			
	R: DE, ES, FR, GB, IT					
	ES 2208928	T3	20040616	ES 1997-932567	19970716	<--
	ZA 9706348	A	19980203	ZA 1997-6348	19970717	<--
	ZA 9711008	A	19980615	ZA 1997-11008	19971208	<--
PRAI	US 1996-684287	A1	19960718	<--		
	WO 1997-US11990	W	19970716	<--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9803149	ICM	A61K007-06	
WO 9803149	ECLA	A61K007/06C16; A61K007/06C14B; A61K007/06C26; A61K008/49F; A61K008/49H; A61K008/60; A61K008/60A; A61K008/64; A61Q007/02	<--
US 5908867	ECLA	A61K007/06C14B; A61K007/06C16; A61K007/06C22; A61K007/06C26; A61K007/06C20	<--

AB A method of reducing hair growth in a mammal includes applying, to an area of skin from which reduced hair growth is desired, a dermatol. acceptable composition containing a compound that inhibits the formation of glycoproteins, proteoglycans, or glycosaminoglycans in an amount effective to cause a reduction

in hair growth. D-Mannose was mixed at a concentration of 30 % in a vehicle containing water 68, ethanol 16, propylene glycol 5, dipropylene glycol 5, benzyl alc. 4, and propylene carbonate 2 % and when tested in the Golden Syrian hamster assay, hair growth inhibition by 77 % was observed

ST hair growth redn glycoprotein inhibitor; mannose hirsutism hair growth inhibitor

IT **Cosmetics**
(depilatories; hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

IT Hirsutism
(hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

IT Exocytosis
(of proteoglycans; hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

IT 9004-61-9, Hyaluronic acid 9007-28-7, Chondroitin sulfate 9050-30-0, Heparan sulfate 9068-25-1 9073-99-8, Glucosidase II 24967-94-0, Dermatan sulfate 37247-98-6D, Pyrophosphoryl dolichol, oligosaccharide derivs. 56938-89-7, N-Acetylglucosamine pyrophosphoryldolichol 70226-44-7, Heparan **71246-55-4D**, glucopyranose derivs. 73699-12-4, Glucosidase I 82047-77-6, Mannosidase II 169799-44-4, Keratin sulfate
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

IT 59-23-4, Galactose, biological studies 90-89-1, Diethylcarbamazine 612-05-5, Methyl-β-D-xylopyranoside 1402-82-0, Amphomycin 1405-87-4, Bacitracin 2001-96-9 2438-80-4, Fucose 3416-24-8, D-Glucosamine 3458-28-4, D-Mannose 3615-37-0, D-Fucose 6734-33-4, 4-Methylumbelliferyl-β-D-xyloside 7512-17-6, N-Acetyl-D-glucosamine 10030-80-5, L-Mannose 11054-63-0, Tsushimycin 11089-65-9, Tunicamycin 11141-18-7, Diumycin 12633-72-6, Amphotericin 14948-96-0 15572-79-9, L-Galactose 16755-07-0, Showdomycin 17090-79-8, Monensin 19130-96-2, Deoxynojirimycin 38440-79-8 41355-95-7 56833-74-0, Streptovirudin 69567-10-8 79831-76-8, Castanospermine 84444-90-6, Deoxymannojirimycin 95189-02-9 101858-10-0, Mycospocidin 202843-55-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

IT 9031-11-2, β-Galactosidase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Golub; US 5532227 A 1996 HCAPLUS
(2) Handelman, J; WO 9626712 A 1996 HCAPLUS
(3) Institut Pasteur; FR 2632526 A 1989 HCAPLUS
(4) Kao Corp; JP 860175414 A 1986
(5) Medicis Pharmaceutical Corporation; WO 9715282 A 1997 HCAPLUS
(6) Merrell Dow Pharm Inc; EP 0295538 A 1988 HCAPLUS
(7) Sansho Seiyaku Kk; EP 0308919 A 1989 HCAPLUS
(8) The Rockefeller University; WO 9313775 A 1993 HCAPLUS
(9) The Rockefeller University; WO 9314750 A 1993 HCAPLUS
(10) Unilever Plc; EP 0277428 A 1988 HCAPLUS
(11) Unilever Plc; EP 0295092 A 1988 HCAPLUS

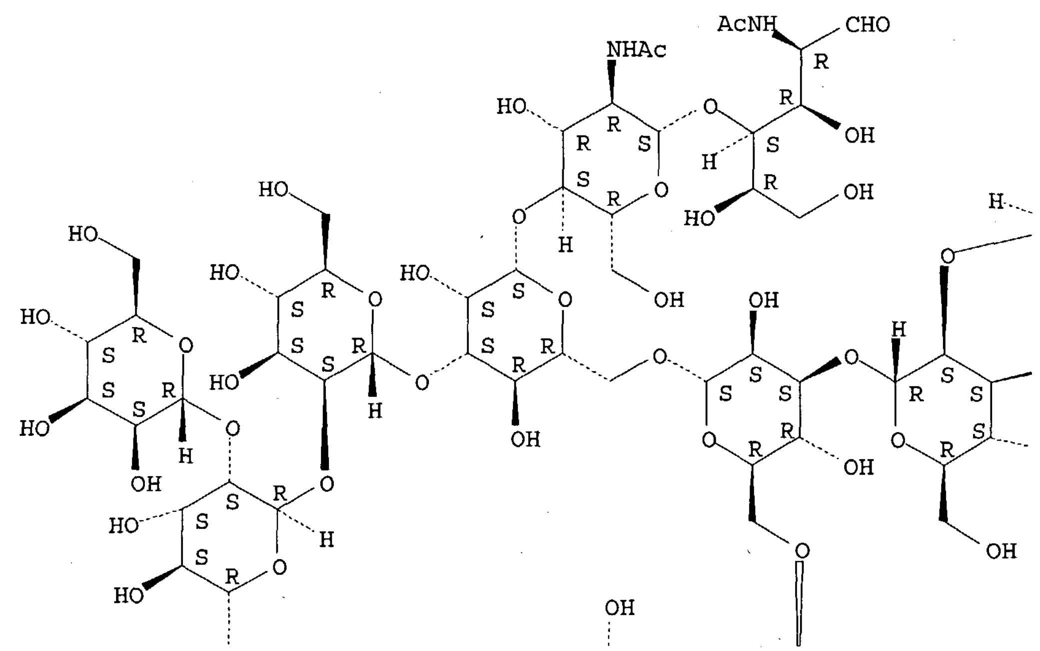
IT **71246-55-4D**, glucopyranose derivs.
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(hair prepns. containing glycoprotein formation inhibitors for reduction of hair growth)

RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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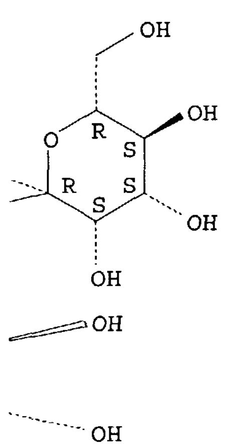

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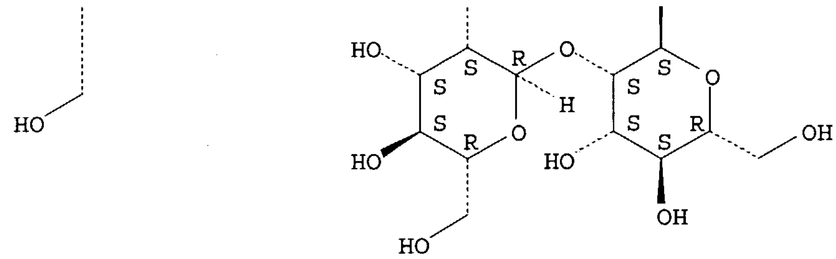

L74 ANSWER 9 OF 12 HCAPLUS
AN 1996:321020 HCAPLUS
DN 124:333054
ED Entered STN: 01 Jun 1996
TI Medicinal composition containing sialic acid derivative
IN Koketsu, Mamoru; Nishizono, Masakazu; Nitoda, Teruhiko; Enoki, Yuko; Kawanami, Hiroshi; Juneja, Lekh Raj
PA Taiyo Kagaku Co., Ltd., Japan
SO PCT Int. Appl., 75 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM A61K031-70
ICS A61K031-725; A61K031-73; A61K038-02
ICA C07H005-06; C07H007-02; C08B037-00; C07K002-00
CC 1-5 (Pharmacology)
Section cross-reference(s): 17
FAN.CNT 1

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PI	WO 9602255	A1	19960201	WO 1995-JP1415	19950714	<--
	W: CA, JP, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	CA 2171614	AA	19960201	CA 1995-2171614	19950714	<--
	EP 727216	A1	19960821	EP 1995-925133	19950714	<--
	EP 727216	B1	20030528			
	R: BE, CH, DE, DK, FR, GB, LI, NL, SE					
	US 5834423	A	19981110	US 1996-617821	19960315	<--
PRAI	JP 1994-186699	A	19940715 <--			
	JP 1994-186700	A	19940715 <--			
	WO 1995-JP1415	W	19950714 <--			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9602255	ICM	A61K031-70
	ICS	A61K031-725; A61K031-73; A61K038-02
	ICA	C07H005-06; C07H007-02; C08B037-00; C07K002-00

AB A medicinal composition containing sialic acid derivs. e.g. oligosaccharides as the active ingredient and usable as an antiviral agent, diarrhea remedy, antiulcer agent, antiinflammatory agent, antiallergic agent and Bifidus growth accelerator. A process for producing the derivative comprises adding almond or apricot seeds to an avian egg yolk, and can provide the target substance readily in a high yield.
ST antiviral sialate deriv oligosaccharide prepn; antidiarrheal sialate deriv oligosaccharide prepn; antiulcer sialate deriv oligosaccharide prepn; antiinflammatory sialate deriv oligosaccharide prepn; antiallergic sialate deriv oligosaccharide prepn; Bifidus growth sialate deriv oligosaccharide prepn
IT Sialic acids

RL: SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(derivs.; medicinal composition containing sialic acid derivs.)

IT Diarrhea
(inhibitors; medicinal composition containing sialic acid derivs.)

IT Allergy inhibitors
Bifidobacterium
Inflammation inhibitors
Ulcer inhibitors
Virucides and Virustats
(medicinal composition containing sialic acid derivs.)

IT Almond
Apricot
Egg yolk
RL: RCT (Reactant); RACT (Reactant or reagent)
(medicinal composition containing sialic acid derivs.)

IT Oligosaccharides
Phospholipids, biological studies
RL: SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(sialyl derivs.; medicinal composition containing sialic acid derivs.)

IT 112-47-0, 1,10-Decanediol 504-63-2, 1,3-Propanediol 629-11-8, 1,6-Hexanediol 629-41-4, 1,8-Octanediol 10589-47-6 10589-48-7, 1-Stearoyl-2-palmitoyl lecithin 16655-75-7 17364-19-1, Stearoyl lysophosphatidylcholine 17688-29-8 40811-59-4, Dilinolenoyl phosphatidylcholine 45108-98-3, N-Acetyl nonylamine 82057-50-9, 9-O-Acetyl neuraminic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(medicinal composition containing sialic acid derivs.)

IT **71496-55-4DP**, reaction product with phosphatidyl alkanols 82659-92-5DP, reaction product with phosphatidyl alkanols 119534-74-6DP, reaction product with phosphatidyl alkanols 167013-38-9DP, conjugate with mono and disialyl oligosaccharides 176914-09-3DP, conjugate with mono and disialyl oligosaccharides 176914-10-6DP, conjugate with mono and disialyl oligosaccharides 176914-11-7DP, conjugate with mono and disialyl oligosaccharides 176914-12-8DP, conjugate with mono and disialyl oligosaccharides
RL: SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(medicinal composition containing sialic acid derivs.)

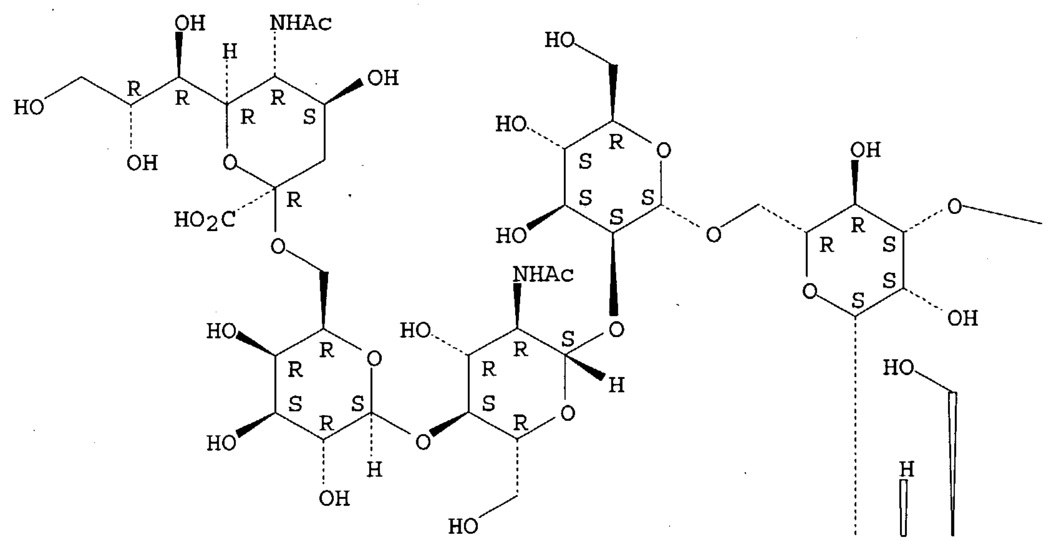
IT **71496-55-4DP**, reaction product with phosphatidyl alkanols
RL: SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); **USES (Uses)**
(medicinal composition containing sialic acid derivs.)

RN 71496-55-4 HCAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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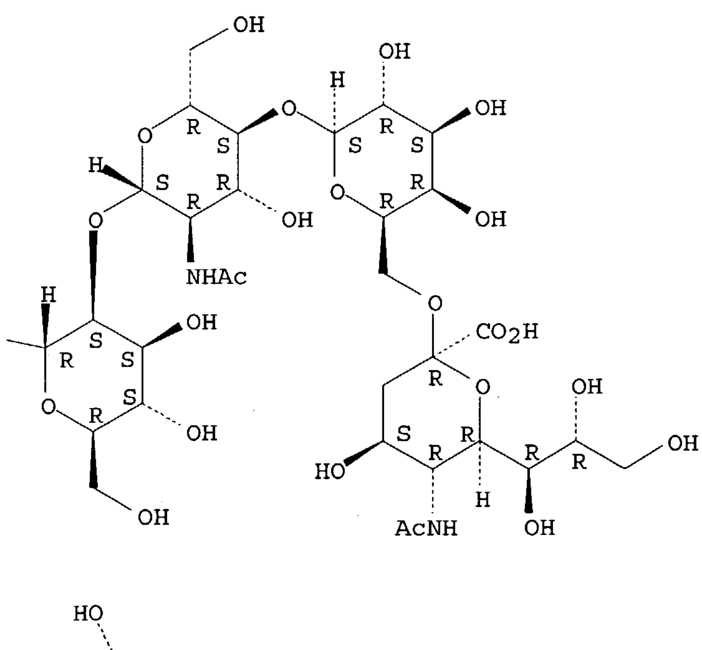

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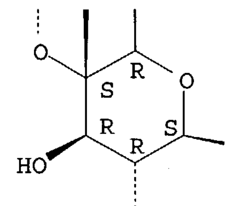

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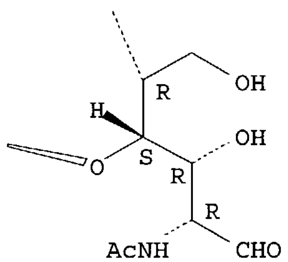


L74 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:733329 HCAPLUS
DN 123:123168
ED Entered STN: 12 Aug 1995
TI Liposome having oligosaccharide on the surface
IN Hatanaka, Masakazu; Mizuochi, Tsuguo; Sugimoto, Masanobu; Ohishi, Kazue
PA Tonen Corp., Japan
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM A61K047-36
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): **15**
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9511704	A1	19950504	WO 1994-JP1828	19941028	<--
	W: CA, US					
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
	JP 07126185	A2	19950516	JP 1993-272693	19931029	<--
	JP 2828391	B2	19981125			
	CA 2152917	AA	19950504	CA 1994-2152917	19941028	<--
	EP 677295	A1	19951018	EP 1994-931186	19941028	<--
	R: DE, FR, GB, IT					
	US 5759572	A	19980602	US 1995-481300	19950918	<--
PRAI	JP 1993-272693	A	19931029 <--			
	WO 1994-JP1828	W	19941028 <--			

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9511704	ICM	A61K047-36	
WO 9511704	ECLA	A61K009/127B; A61K047/48W6D	<--
EP 677295	ECLA	A61K009/127B; A61K047/48W6D	<--
US 5759572	ECLA	A61K009/127B; A61K047/48H	<--

AB The invention is related to a liposome as an adjuvant which is effective

for somatic **immunization** and reduced in toxicity and
antigenicity and can be administered to humans. The liposome comprises 2-11 saccharide residues and has on its surface an oligosaccharide which can combine with a lectin originating in an antigen-presenting cell, and a vaccine is prepared by enclosing an antigen in the liposome.

ST liposome oligosaccharide coating vaccine

IT **Vaccines**
(oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT Antigens
Oligosaccharides
Phosphatidic acids
Phosphatidylcholines, biological studies
Phosphatidylethanolamines
Phosphatidylserines
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT **Immunization**
(somatic; oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT **Immunostimulants**
(adjuvants, oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT Steroids, biological studies
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(hydroxy, oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT **Pharmaceutical dosage forms**
(liposomes, oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

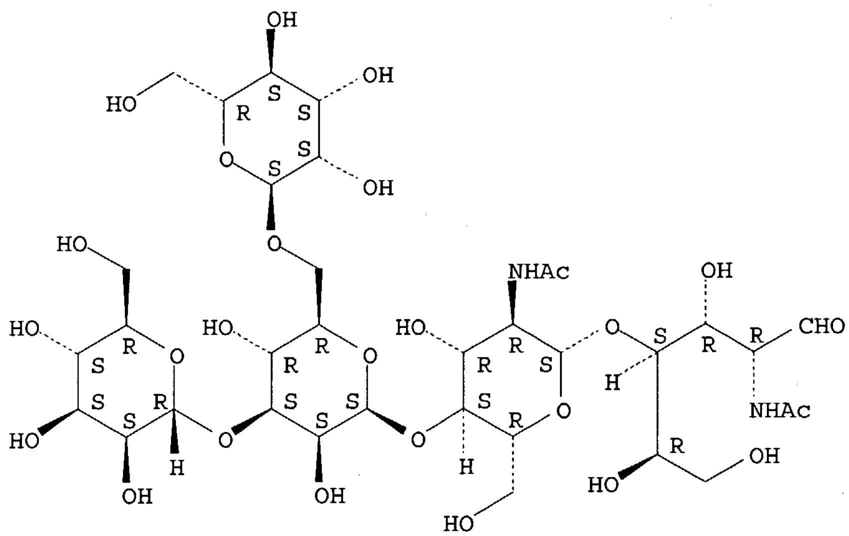
IT 57-88-5, Cholesterol, biological studies 2644-64-6, Dipalmitoylphosphatidylcholine 2706-65-2 3036-82-6, Dipalmitoylphosphatidylserine 4537-76-2, Distearoylphosphatidylethanolamine 4539-70-2, Distearoylphosphatidylcholine 5681-36-7, Dipalmitoylphosphatidylethanolamine 17966-25-5, Distearoylphosphatidic acid 19698-29-4, Dipalmitoylphosphatidic acid 34141-02-1 36467-68-2 38854-46-5 38864-21-0 69401-47-4 **70858-45-6D**, derivs. **71246-55-4** 73508-66-4D, derivs. 92216-05-2 102038-83-5D, derivs. 110387-51-4D, derivs. 110402-13-6D, derivs. 112828-69-0 136036-84-5D, derivs.
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

IT **70858-45-6D**, derivs. **71246-55-4**
RL: **THU (Therapeutic use)**; BIOL (Biological study); **USES (Uses)**
(oligosaccharide-coated liposomes and the liposomes containing antigens as vaccines)

RN 70858-45-6 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→3)-O-[α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

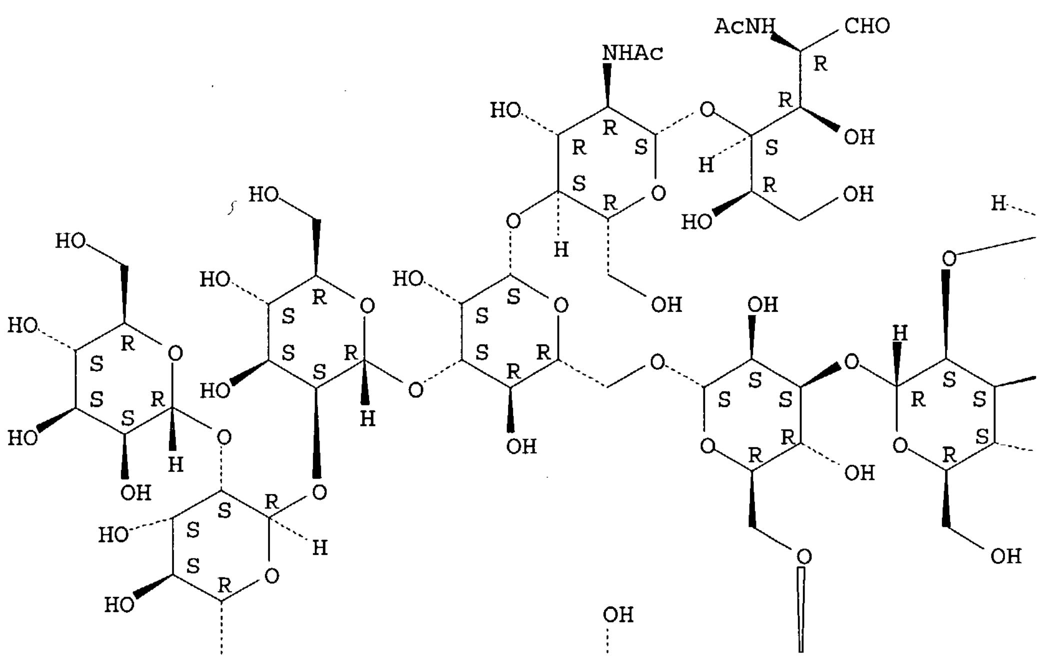
Absolute stereochemistry.



RN 71246-55-4 HCAPLUS
CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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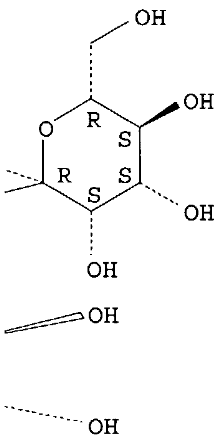

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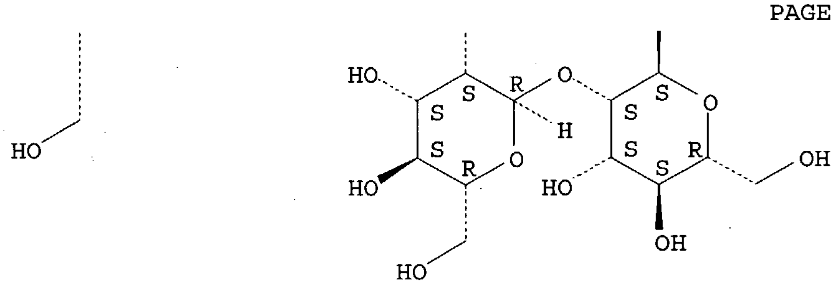


L74 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:656381 HCAPLUS
DN 123:105585
ED Entered STN: 05 Jul 1995
TI Structures of the N-linked oligosaccharides on human plasma vitronectin
AU Ogawa, Haruko; Yoneda, Atsuko; Seno, Nobuko; Hayashi, Masao; Ishizuka, Ineo; Hase, Sumihiro; Matsumoto, Isamu
CS Dep. Chem., Ochanomizu Univ., Tokyo, Japan
SO European Journal of Biochemistry (**1995**), 230(3), 994-1000
CODEN: EJBCAI; ISSN: 0014-2956
PB Springer
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The structures of N-linked oligosaccharides present on human plasma vitronectin were elucidated. Oligosaccharides were released from the vitronectin by N-glycosidase F digestion and tagged with 2-aminopyridine; the pyridylamino-oligosaccharides were then fractionated by anion-exchange and reverse-phase HPLC. Ten major pyridylamino-oligosaccharides were isolated. The linkages and locations of sialic acid residues were determined by desialylation with Salmonella sialidase in combination with acid. The asialo forms were then analyzed by two-dimensional sugar mapping, component sugar anal. and 400-MHz 1H-NMR spectroscopy. The major oligosaccharides of human vitronectin were of the diantennary N-acetyllactomsamine type, with a lesser amount of the tri- and a small amount of the monoantennary type, to which 1-3 mol sialic acid residues were linked, mostly through α2-6 linkages, although α2-3 linkages were also present. The possibility that several binding activities of

vitronectin can be ascribed to its glycan moiety was discussed, based on the specific features of the N-linked oligosaccharides on human vitronectin revealed here.

ST vitronectin oligosaccharide N linked structure

IT Oligosaccharides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(N-linked, structures of N-linked oligosaccharides on human plasma vitronectin)

IT Animal growth regulators
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(vitronectins, structures of N-linked oligosaccharides on human plasma vitronectin)

IT **71496-55-4** 76859-00-2 79295-70-8 80338-46-1 82659-92-5
83411-87-4 118074-20-7 118325-36-3
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structures of N-linked oligosaccharides on human plasma vitronectin)

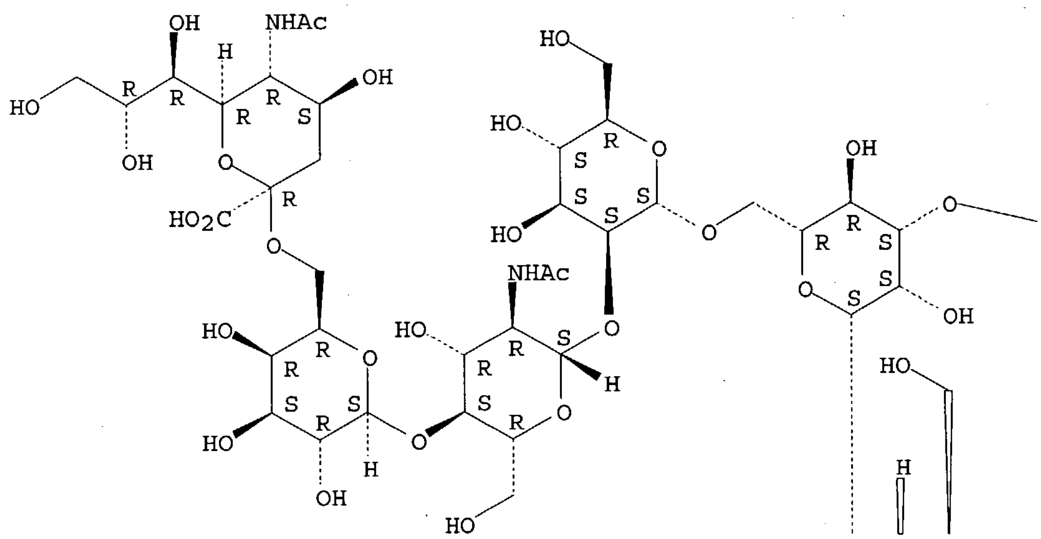
IT **71496-55-4 83411-87-4**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structures of N-linked oligosaccharides on human plasma vitronectin)

RN 71496-55-4 HCAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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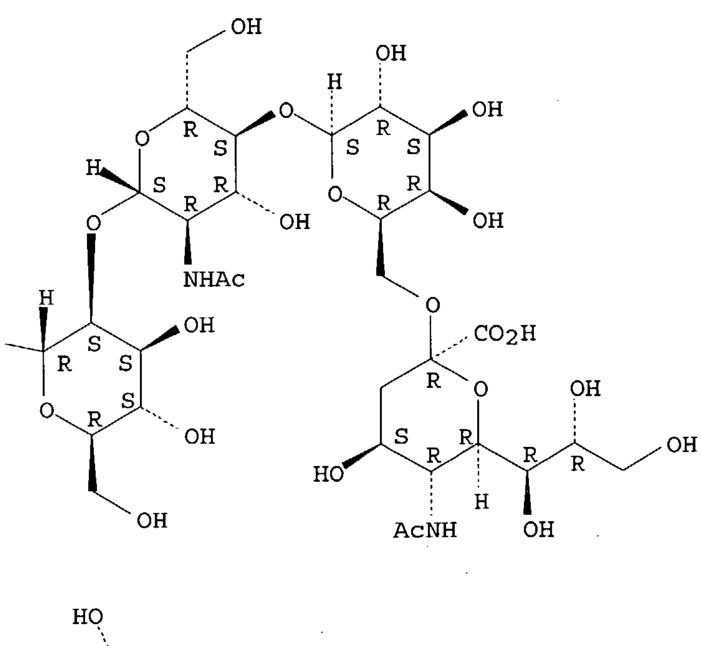
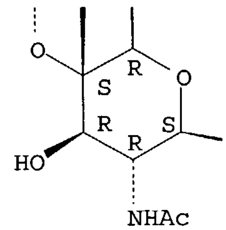


PAGE 2-A



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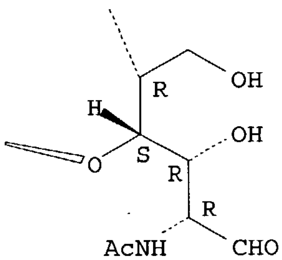
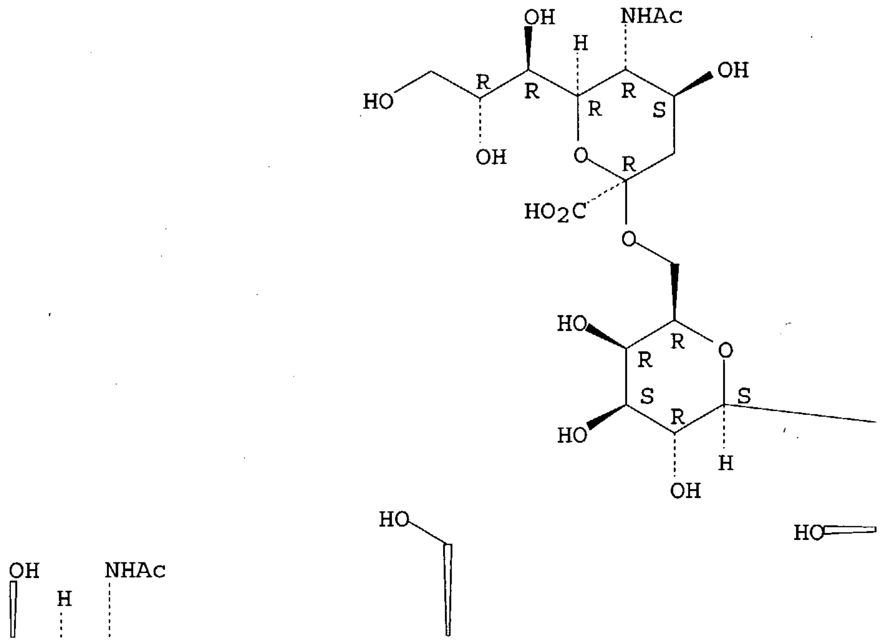


RN 83411-87-4 HCAPLUS

CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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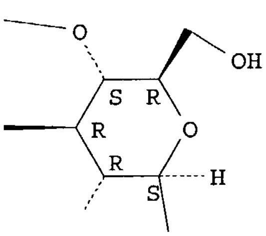

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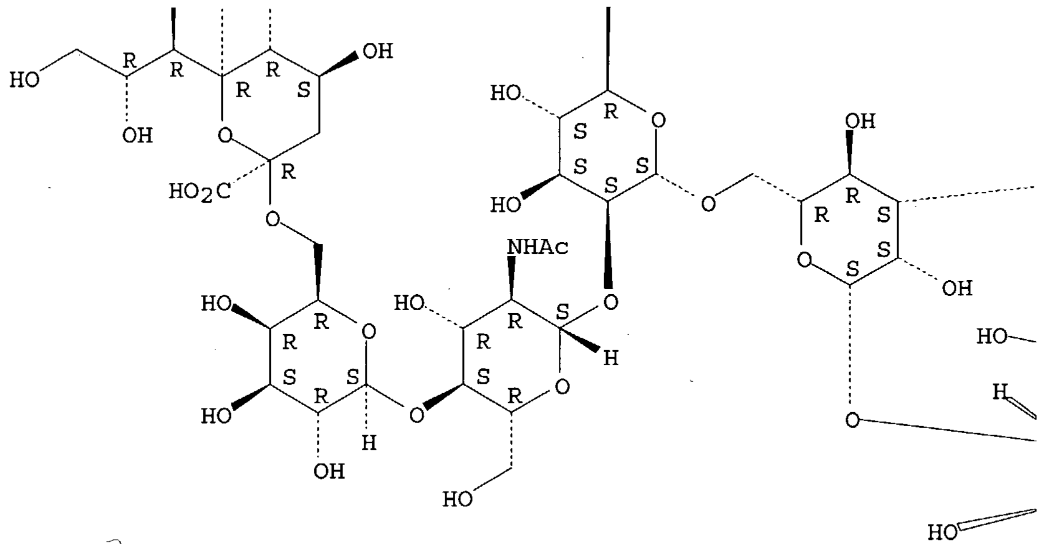

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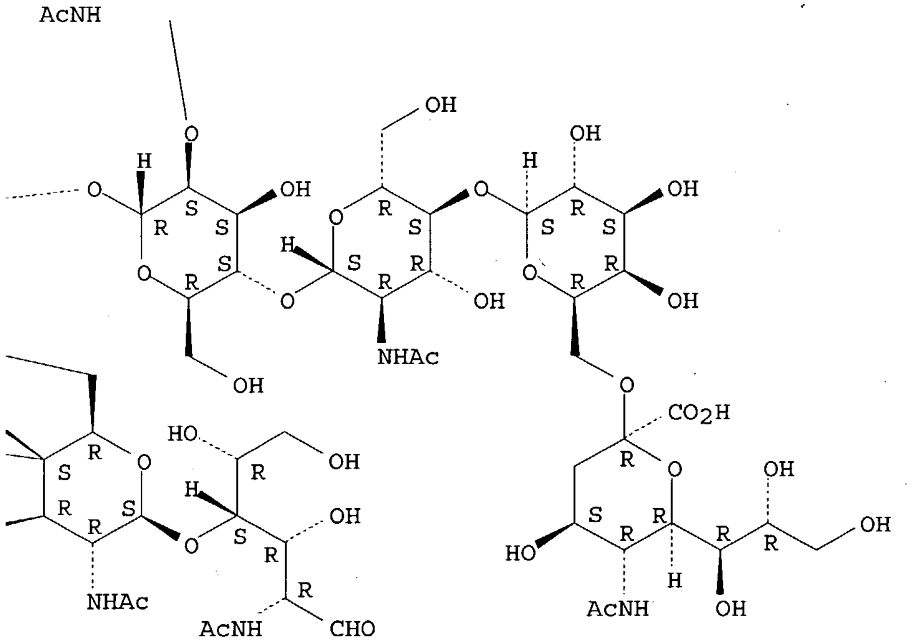


L74 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:554483 HCAPLUS
DN 122:312852
ED Entered STN: 17 May 1995
TI Oligomannose-coated liposomes as an adjuvant for the induction of cell-mediated **immunity**
AU Sugimoto, Masanobu; Ohishi, Kazue; Fukasawa, Masashi; Shikata, Kohdoh; Kawai, Hiromi; Itakura, Hideyo; Hatanaka, Masakazu; Sakakibara, Ryuzo; Ishiguro, Masatsune; et al.
CS Institute of Tropical Medicine, Nagasaki University, Sakamoto-machi 12-4, Nagasaki, 852, Japan

SO FEBS Letters (**1995**), 363(1,2), 53-6
CODEN: FEBLAL; ISSN: 0014-5793
PB Elsevier
DT Journal
LA English
CC 15-9 (Immunochemistry)

AB The effect of the coating of ovalbumin-reconstituted liposomes with various oligosaccharides on their **immunogenicity** was investigated in mice. The coating of liposomes with oligomannose or yeast mannan drastically enhanced their ability to induce an ovalbumin-specific delayed-type footpad swelling response with a peak at 24 to 48 h post-challenge. Among various oligosaccharides tested, only those with mannose residue at the non-reducing termini manifested the activity when applied to liposomes. Since such oligosaccharides are ubiquitously found in the body, these results suggested the usefulness of oligomannose-coated liposomes as a safe adjuvant for the induction of cell-mediated **immunity.**

ST oligomannose liposome adjuvant delayed type hypersensitivity

IT Liposome
(oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

IT Oligosaccharides
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

IT **Immunostimulants**
(adjuvants, oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

IT Allergy
(delayed hypersensitivity, oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

IT 34141-02-1 69401-47-4 **71246-55-4** 78392-31-1 84808-03-7 112828-69-0
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); BIOL (Biological study)
(oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

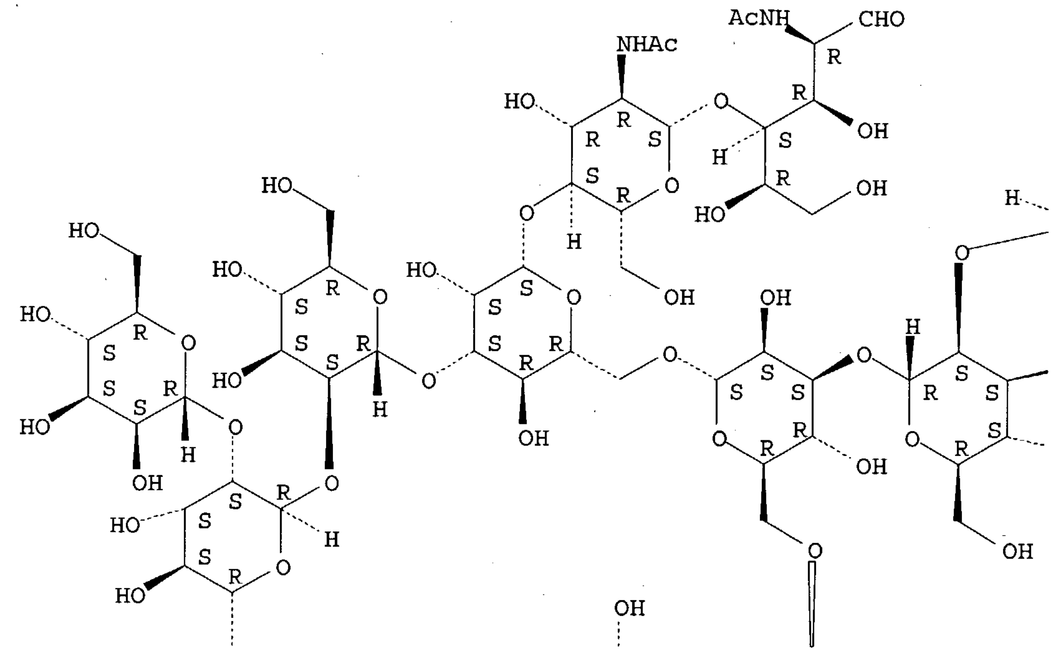
IT **71246-55-4**
RL: **BAC (Biological activity or effector, except adverse)**; BSU (Biological study, unclassified); BIOL (Biological study)
(oligomannose-coated liposomes as an adjuvant for the induction of delayed-type hypersensitivity)

RN 71246-55-4 HCAPLUS

CN D-Glucose, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-α-D-mannopyranosyl-(1→6)-O-[O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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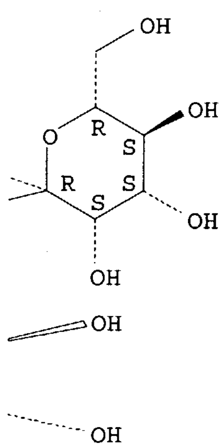

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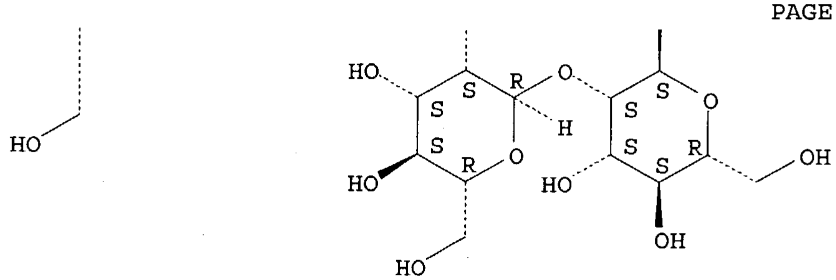

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